

State of California
The Resources Agency

DEPARTMENT OF WATER RESOURCES
Division of Operations and Maintenance

STATE WATER PROJECT OPERATIONS DATA

For the month of:
April 1999

Gray Davis
Governor
State of California

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The Resources Agency

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State of California
The Resources Agency

Department of Water Resources
Division of Operations and Maintenance

**State Water Project
Operations Data**
for the Month of April 1999

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MONTHLY HIGHLIGHTS

The following highlights are activities or actions that impacted State Water Project operations during the month of April 1999.

Statewide precipitation for the month was well above normal, a result of above average rainfall in April in coastal and desert regions. Showers extended into Southern California, where April is usually dry, boosting seasonal precipitation totals there to about two-thirds of normal. Northern Sierra amounts in April were about 3 inches, about 80 percent of average, bringing the seasonal total to 52.5 inches, about 116 percent of normal. Last year at this time 71.5 inches had accumulated.

On April 1, mountain snowpack stood at 110 percent of average. Cold early April storms increased the pack until April 12, when a week of fair and relatively warm weather started melting the snow. The April 30 snowpack water content was about 120 percent of average, compared to 190 percent at the same time last year.

Runoff for April was slightly above average, on pace for a 110 to 115 percent of average statewide runoff this water year. Monthly amounts were below normal in the southern Sierra, matching the reduced snowpack. Last year April runoff was 140 percent of average, and the seasonal runoff was 160 percent of average.

Reservoir storage increased during April, about 115 percent of average. Last year storage on April 30 was similar at about 115 percent. On April 30, total storage in major SWP reservoirs was about 4.9 MAF, compared with 4.8 MAF at this time in 1998. Average storage in the major SWP reservoirs on April 30 is about 4.38 MAF. Storage in Lake Oroville was about 3.2 MAF, compared to 3.03 MAF at this time last year. The State's share of San Luis Reservoir storage was about 1.01 MAF, as compared with 1.06 MAF at this time last year. On April 30, the combined storage in our southern reservoirs was about 656,000 AF, compared with 694,000 AF at this time last year.

Through April, SWP water deliveries for 1999 were 457,000 AF, representing a combination of annual entitlement, carryover, interruptible, and exchange waters. This is 138,000 AF more than delivered during the same period in 1998.

After last minute changes due to court challenges of the Bureau's implementation of Anadramous Fish Restoration Program actions in the Delta, the SWP and CVP began using the operational objectives in the delta smelt biological opinion as the targets for April 17 to May 16 export pumping. The result was a combined SWP/CVP export pumping target approximately 3500 cfs less than the flow in the San Joaquin River at Vernalis. Water purchased from the San Joaquin River tributaries was coordinated and released in an effort to implement a spring "pulse" target of 7020 cfs at Vernalis. Increased depletions required additional releases and coordination to eventually get flows up to the target.

On April 19, Feather River Service Area contractors began taking deliveries from Thermalito Afterbay. FRSA contractors historically curtail deliveries from Thermalito Afterbay in the winter and resume taking irrigation water in the spring.

Table 1. Antelope Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right					
Mar 31	5000.18	20,912									
1	5000.19	20,912	0	100	0	0	0				
2	5000.13	20,868	-44	100	0	0	0				
3	5000.08	20,823	-45	100	0	0	0				
4	5000.00	20,753	-70	100	0	0	0				
5	4999.95	20,700	-53	100	0	0	0				
6	4999.90	20,656	-44	100	0	0	0				
7	4999.79	20,559	-97	100	0	0	0				
8	4999.71	20,488	-71	100	0	0	0				
9	4999.66	20,444	-44	100	0	0	0				
10	4999.57	20,365	-79	100	0	0	0				
11	4999.51	20,312	-53	100	0	0	0				
12	4999.43	20,242	-70	100	0	0	0				
13	4999.41	20,225	-17	100	0	0	0				
14	4999.41	20,225	0	100	0	0	0				
15	4999.45	20,260	35	100	0	0	0				
16	4999.51	20,312	52	100	0	0	0				
17	4999.63	20,418	106	100	0	0	0				
18	4999.87	20,630	212	100	0	0	0				
19	5000.01	20,762	132	100	0	0	0				
20	5000.50	21,197	435	100	0	0	0				
21	5000.98	21,629	432	100	0	0	0				
22	5001.31	21,929	300	100	0	0	0				
23	5001.51	22,112	183	100	0	0	0				
24	5001.68	22,268	156	100	0	0	0				
25	5001.92	22,490	222	100	0	0	0				
26	5002.23	22,778	288	100	0	0	15				
27	5002.58	23,106	328	100	0	0	38				
28	5002.74	23,257	151	100	0	0	71				
29	5002.74	23,257	0	100	0	0	56				
30	5002.71	23,229	-28	100	0	0	36				
Total cfs-days			---	3,000	0	0	216	90	3,305	4,474	
Total ac-ft			2,317	5,950	0	0	428	178	6,556	8,873	

1/ Values not available on a daily basis.

Table 2. Frenchman Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Mar 31	5588.88	56,878								
1	5588.92	56,942	64	2	0	0	129			
2	5588.94	56,975	33	2	0	0	136			
3	5588.94	56,975	0	2	0	0	138			
4	5588.86	56,846	-129	2	0	0	129			
5	5588.90	56,910	64	2	0	0	125			
6	5588.83	56,798	-112	2	0	0	121			
7	5588.80	56,750	-48	2	0	0	110			
8	5588.77	56,702	-48	2	0	0	104			
9	5588.72	56,622	-80	2	0	0	96			
10	5588.71	56,606	-16	2	0	0	92			
11	5588.70	56,590	-16	2	0	0	88			
12	5588.70	56,590	0	2	0	0	88			
13	5588.70	56,590	0	2	0	0	88			
14	5588.74	56,654	64	2	0	0	92			
15	5588.83	56,798	144	2	0	0	104			
16	5588.88	56,878	80	2	0	0	121			
17	5589.06	57,168	290	2	0	0	145			
18	5589.10	57,232	64	2	0	0	171			
19	5589.22	57,426	194	2	0	0	191			
20	5589.34	57,620	194	2	0	0	222			
21	5989.44	57,782	162	2	0	0	252			
22	5589.42	57,749	-33	2	0	0	263			
23	5589.36	57,652	-97	2	0	0	252			
24	5589.32	57,587	-65	2	0	0	238			
25	5589.31	57,571	-16	2	0	0	232			
26	5589.38	57,685	114	2	0	0	238			
27	5589.39	57,701	16	2	0	0	249			
28	5589.37	57,668	-33	2	0	0	249			
29	5589.34	57,620	-48	2	0	0	243			
30	5589.30	57,555	-65	2	0	0	232			
Total cfs-days				---	60	0	0	4,938	162	
Total ac-ft				677	119	0	0	9,794	322	
									10,235	
									10,912	

1/ Values not available on a daily basis.

Table 3. Lake Davis

Daily Operation
(in acre-feet except as noted)

Capacity: 84,371 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs						Computed Inflow	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right					
Mar 31	5772.10	73,131									
1	5772.11	73,168	37	91	0	0	0				
2	5772.11	73,168	0	91	0	0	0				
3	5772.12	73,205	37	91	0	0	0				
4	5772.10	73,131	-74	91	0	0	0				
5	5772.10	73,131	0	91	0	0	0				
6	5772.10	73,131	0	91	0	0	0				
7	5772.08	73,056	-75	91	0	0	0				
8	5772.11	73,168	112	91	0	0	0				
9	5772.07	73,019	-149	91	0	0	0				
10	5772.06	72,982	-37	91	0	0	0				
11	5772.07	73,019	37	91	0	0	0				
12	5772.06	72,982	-37	91	0	0	0				
13	5772.05	72,944	-38	91	0	0	0				
14	5772.06	72,982	38	91	0	0	0				
15	5772.09	73,093	111	91	0	0	0				
16	5772.16	73,355	262	91	0	0	0				
17	5772.25	73,692	337	91	0	0	0				
18	5772.36	74,104	412	91	0	0	0				
19	5772.49	74,593	489	91	0	0	0				
20	5772.61	75,047	454	91	0	0	0				
21	5772.71	75,425	378	91	0	0	0				
22	5772.79	75,729	304	91	0	0	0				
23	5772.86	75,995	266	91	0	0	0				
24	5772.95	76,338	343	91	0	0	0				
25	5773.04	76,682	344	91	0	0	0				
26	5773.16	77,142	460	91	0	0	0				
27	5773.23	77,411	269	91	0	0	0				
28	5773.29	77,642	231	91	0	0	0				
29	5773.32	77,757	115	91	0	0	0				
30	5773.38	77,988	231	91	0	0	0				
Total cfs-days			---	2,730	0	0	0	382	3,112	5,561	
Total ac-ft			4,857	5,415	0	0	0	758	6,173	11,030	

1/ Values not available on a daily basis.

Table 4. Lake Oroville

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow					Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Evaporation 2/	Spill	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 3/
Mar 31	859.74	2,941,141								
1	860.45	2,950,990	9,849	6,258	6	75	0	6,339	0	16,188
2	861.11	2,960,167	9,177	6,111	6	126	0	6,243	0	15,420
3	862.00	2,972,573	12,406	1,893	6	178	0	2,077	0	14,483
4	862.92	2,985,436	12,863	425	6	163	0	594	0	13,457
5	863.54	2,994,127	8,691	5,822	6	157	0	5,985	0	14,676
6	864.00	3,000,587	6,460	8,387	6	15	0	8,408	0	14,868
7	864.34	3,005,367	4,780	8,664	6	52	0	8,722	0	13,502
8	865.06	3,015,509	10,142	6,607	6	99	0	6,712	0	16,854
9	865.61	3,023,273	7,764	7,852	6	38	0	7,896	0	15,660
10	866.51	3,036,007	12,734	2,119	6	106	0	2,231	0	14,965
11	867.55	3,050,769	14,762	1,818	6	30	0	1,854	0	16,616
12	868.09	3,058,454	7,685	8,510	6	136	0	8,652	0	16,337
13	868.58	3,065,439	6,985	9,595	6	144	0	9,745	0	16,730
14	868.93	3,070,435	4,996	12,070	6	160	0	12,236	0	17,232
15	869.25	3,075,008	4,573	12,579	6	388	0	12,973	0	17,546
16	869.73	3,081,877	6,869	10,999	6	283	0	11,288	0	18,157
17	870.78	3,096,940	15,063	3,195	6	244	0	3,445	0	18,508
18	872.15	3,116,672	19,732	666	6	230	0	902	0	20,634
19	873.25	3,132,580	15,908	7,133	6	193	0	7,332	0	23,240
20	874.25	3,147,091	14,511	8,061	6	162	0	8,229	0	22,740
21	875.04	3,158,589	11,498	12,169	7	194	0	12,370	0	23,868
22	875.66	3,167,633	9,044	13,764	8	178	0	13,950	0	22,994
23	876.71	3,182,992	15,359	6,745	8	304	0	7,057	0	22,416
24	877.84	3,199,579	16,587	5,223	8	289	0	5,520	0	22,107
25	879.00	3,216,671	17,092	4,568	8	227	0	4,803	0	21,895
26	879.76	3,227,904	11,233	13,315	8	157	0	13,480	0	24,713
27	880.26	3,235,307	7,403	17,582	8	166	0	17,756	0	25,159
28	880.54	3,239,460	4,153	17,953	8	166	0	18,127	0	22,280
29	880.72	3,242,132	2,672	18,731	8	198	0	18,937	0	21,609
30	881.02	3,246,589	4,457	14,384	9	206	0	14,599	0	19,056
Total		305,448	253,198	200	5,064	0	258,462	0	563,910	

1/ Includes bypass flows

2/ Evaporation will be zero for days when there is precipitation or heavy overcast

3/ Does not include pumpback

**Table 5. Thermalito Forebay
Including Diversion Pool and Power Canal**

Daily Operation

(in acre-feet except as noted)

Capacity: 25,120 ac-ft

April 1999

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Mar 31	22,924										
1	22,461	-463	6,258	480	0	6,095	0	4	1,227	0	125
2	22,215	-246	6,111	507	0	5,737	0	4	1,235	0	112
3	23,339	1,124	1,893	502	0	0	0	4	1,229	0	-38
4	23,007	-332	425	480	0	0	0	4	1,238	0	5
5	22,017	-990	5,822	505	0	6,397	0	4	1,247	0	331
6	22,497	480	8,387	504	0	7,330	0	4	1,259	0	182
7	22,779	282	8,664	514	0	7,761	0	4	1,243	0	112
8	22,826	47	6,607	502	0	5,987	0	4	1,245	0	174
9	22,688	-138	7,852	492	0	7,426	0	4	1,244	0	192
10	23,145	457	2,119	510	0	990	0	4	1,245	0	67
11	23,116	-29	1,818	510	0	1,057	0	4	1,240	0	-56
12	22,843	-273	8,510	204	0	7,945	0	4	1,236	0	198
13	22,786	-57	9,595	428	0	9,047	0	4	1,232	0	203
14	22,876	90	12,070	505	0	11,354	0	4	1,229	0	102
15	22,793	-83	12,579	510	0	12,139	0	4	1,224	0	195
16	23,567	774	10,999	504	0	9,594	0	4	1,213	0	82
17	23,922	355	3,195	506	0	2,240	0	4	1,216	0	114
18	23,752	-170	666	502	0	0	0	4	1,218	0	-116
19	23,591	-161	7,133	464	0	6,780	0	4	1,222	0	248
20	22,872	-719	8,061	507	0	8,170	0	4	1,224	0	111
21	22,701	-171	12,169	502	0	11,834	0	5	1,229	0	226
22	23,121	420	13,764	506	0	12,840	0	5	1,216	0	211
23	23,086	-35	6,745	508	0	6,144	0	5	1,220	0	81
24	23,302	216	5,223	512	0	4,356	0	5	1,218	0	60
25	23,469	167	4,568	500	0	3,746	0	5	1,226	0	76
26	23,096	-373	13,315	502	0	13,116	0	5	1,228	0	159
27	23,002	-94	17,582	502	0	18,018	0	5	1,231	0	1,076
28	23,002	0	17,953	504	0	18,018	0	5	1,235	0	801
29	22,579	-423	18,731	526	0	18,652	1	5	1,231	0	209
30	24,144	1,565	14,384	482	0	12,200	1	5	1,218	0	123
Total		1,220	253,198	14,680	0	234,973	2	130	36,918	0	5,365

1/ Sum of Thermalito Forebay and Diversion Pool.

3/ Includes Bypass flows at Thermalito.

2/ Sum of releases from Lake Oroville through Hyatt plant, spill, and spillway leakage.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

Table 6. Thermalito Afterbay

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow					Losses (-) and Gains (+)	Total Releases to River 2/	
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback			
Mar 31	132.91	42,501											
1	133.21	43,644	1,143	6,095	0	0	0	0	4,741	0	-211	5,968	
2	133.45	44,568	924	5,737	0	0	0	0	4,741	0	-72	5,976	
3	132.16	39,705	-4,863	0	0	0	0	0	4,741	0	-122	5,970	
4	131.02	35,625	-4,080	0	0	0	0	0	4,741	0	661	5,979	
5	131.41	36,998	1,373	6,397	0	0	0	0	4,741	0	-283	5,988	
6	132.16	39,705	2,707	7,330	0	0	0	0	4,741	0	118	6,000	
7	133.02	42,918	3,213	7,761	0	0	0	0	4,741	0	193	5,984	
8	133.25	43,797	879	5,987	0	0	0	0	4,760	0	-348	6,005	
9	133.78	45,854	2,057	7,426	0	0	0	0	5,296	0	-73	6,540	
10	132.31	40,257	-5,597	990	0	0	0	0	6,704	0	117	7,949	
11	130.72	34,586	-5,671	1,057	0	0	0	0	6,724	0	-4	7,964	
12	131.04	35,695	1,109	7,945	0	0	0	0	6,724	0	-112	7,960	
13	131.63	37,782	2,087	9,047	0	0	0	0	6,744	0	-216	7,976	
14	132.82	42,160	4,378	11,354	0	0	0	0	6,744	0	-232	7,973	
15	134.16	47,353	5,193	12,139	0	0	0	0	6,744	0	-202	7,968	
16	134.90	50,331	2,978	9,594	0	0	0	0	6,744	0	128	7,957	
17	133.76	45,776	-4,555	2,240	0	0	0	0	6,724	0	-71	7,940	
18	132.00	39,120	-6,656	0	0	0	0	0	6,724	0	68	7,942	
19	131.78	38,322	-798	6,780	329	0	30	103	6,744	0	-372	7,966	
20	131.81	38,430	108	8,170	468	0	139	192	7,260	0	-3	8,484	
21	132.29	40,183	1,753	11,834	577	0	222	194	8,727	0	-361	9,956	
22	133.02	42,918	2,735	12,840	680	0	246	196	8,727	0	-256	9,943	
23	131.87	38,647	-4,271	6,144	946	0	280	192	8,727	0	-270	9,947	
24	130.13	32,585	-6,062	4,356	1,301	0	278	226	8,727	0	114	9,945	
25	127.87	25,443	-7,142	3,746	1,414	0	274	276	8,708	0	-216	9,934	
26	128.48	27,288	1,845	13,116	1,757	0	369	460	8,727	0	42	9,955	
27	129.95	31,985	4,697	18,018	1,839	0	426	609	8,747	0	-1,700	9,978	
28	131.46	37,175	5,190	18,018	1,984	26	424	698	8,727	0	-969	9,962	
29	133.13	43,337	6,162	18,652	2,182	38	458	789	8,727	0	-296	9,958	
30	132.93	42,576	-761	12,200	2,539	46	512	962	8,727	0	-175	9,945	
Total				75	234,973	16,016	110	3,658	4,897	205,094	0	-5,123	242,012

1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

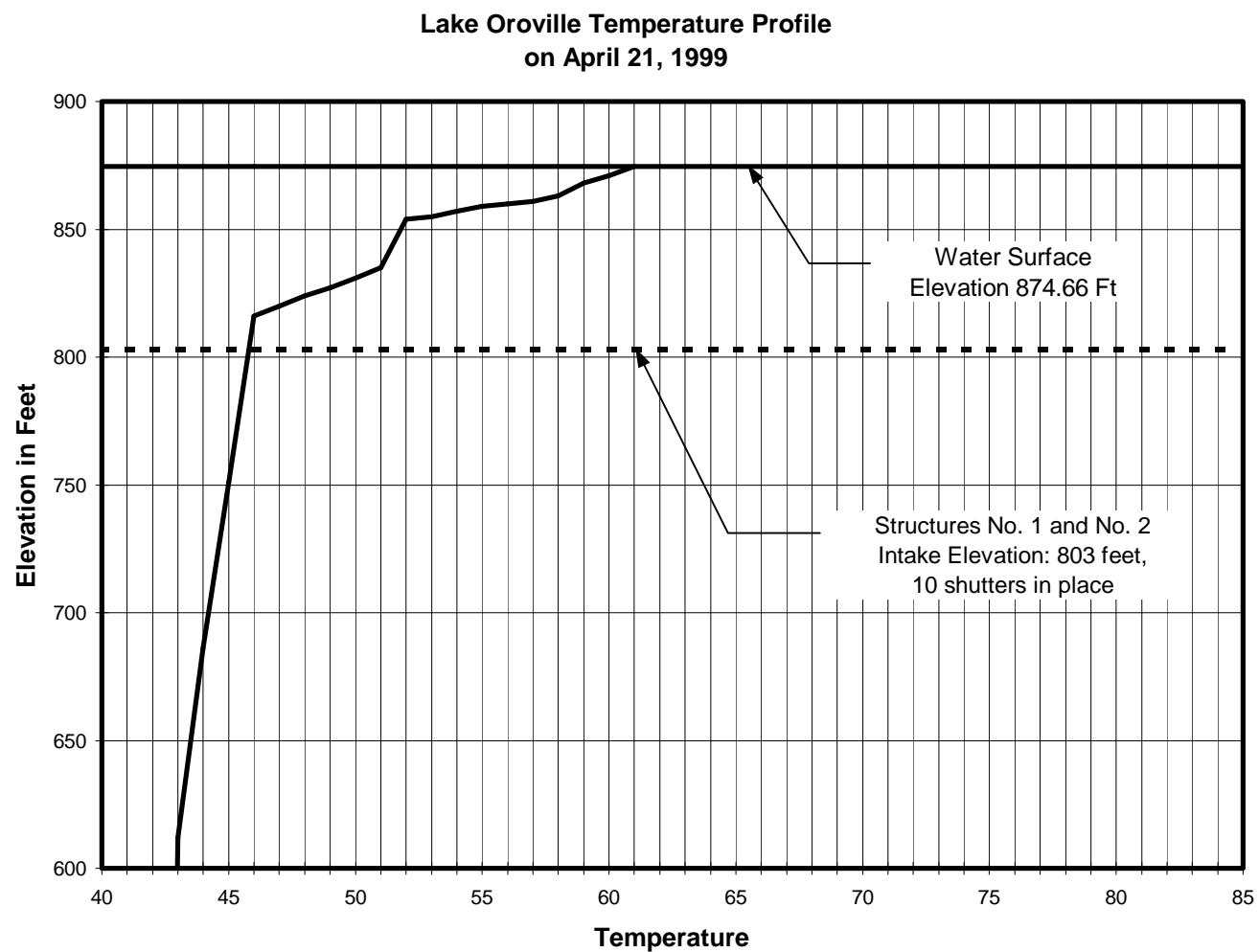
Table 7. Oroville-Thermalito Complex

Water Temperature Data

(in degrees Fahrenheit)

April 1999

Date	Mean Daily Temperature	
	Thermalito Afterbay Outlet	Fish Hatchery
1	51	47
2	50	48
3	51	48
4	49	48
5	49	48
6	49	48
7	50	47
8	49	47
9	50	46
10	49	46
11	50	47
12	52	48
13	53	48
14	55	49
15	55	50
16	56	49
17	55	49
18	55	49
19	56	50
20	60	49
21	59	49
22	58	49
23	56	51
24	56	51
25	57	50
26	57	50
27	56	49
28	54	50
29	52	50
30	53	50



Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

**Table 8. Aqueduct Operation
Delta Field Division**

(in acre-feet except as noted)

April 1999

<u>North Bay Aqueduct</u>	
Pumped at Barker Slough Pumping Plant	733
Travis Turnout	57
Fairfield/Vacaville Turnout	0
Pumped at Cordelia Pumping Plant	653
Cordelia Pumping Plant Spillway	0
Computed Losses (-) or Gains (+)	-23
Benicia Turnout	449
Vallejo Turnout	152
American Canyon 1	47
American Canyon 2	3
Napa City Turnout	2
Total Deliveries (After Cordelia)	653
Change in Storage at Napa Terminal Tank	0
<u>California Aqueduct</u>	
Amount Pumped at Banks Pumping Plan	185,666
Amount Pumped at South Bay Pumping Plant	4,245
Deliveries From California Aqueduct (Oak Flat Water District, Tracy Golf, Veterans Cemetery, and Musco Olive)	415
Inflow into California Aqueduct	0
Change in Storage	-865
Flow Past Check 12	180,860
Computed Losses (-) or Gains (+)	-1,011

Table 9. Delta Field Division Plant Data

(in acre-feet)

April 1999

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct			
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant		Gravity Flow Through Plant Into Aqueduct
			Total	SWP		Into Lake	Into Aqueduct	
1	0	0	8,011	8,011	108	0	0	0
2	0	0	7,090	7,090	139	0	0	0
3	0	0	9,338	9,338	111	0	0	0
4	0	0	12,043	12,043	106	0	0	0
5	0	0	8,889	8,889	114	0	0	0
6	0	0	6,496	6,496	115	0	0	0
7	0	1	6,770	6,770	93	0	0	0
8	0	0	8,048	8,048	47	0	0	0
9	0	0	8,974	8,974	150	0	0	0
10	1	0	9,841	9,841	128	0	0	0
11	0	0	12,459	12,459	105	0	0	0
12	0	0	7,537	7,537	119	0	0	0
13	0	1	5,799	5,799	125	0	0	0
14	0	0	5,921	5,921	124	0	0	0
15	0	0	8,604	8,604	143	0	0	0
16	0	0	7,693	7,693	138	0	0	0
17	6	0	3,623	3,623	150	0	0	0
18	3	0	2,227	2,227	143	0	0	0
19	35	18	3,704	3,704	152	0	0	0
20	59	52	1,743	1,743	151	0	0	0
21	60	55	3,948	3,948	133	0	0	0
22	57	56	3,844	3,844	161	0	0	0
23	49	45	4,646	4,646	162	0	0	0
24	67	66	4,697	4,697	193	0	0	0
25	65	65	4,113	4,113	182	0	0	0
26	72	68	4,599	4,599	155	0	0	0
27	57	53	4,321	4,321	183	0	0	0
28	53	47	4,679	4,679	238	0	0	0
29	68	52	3,065	3,065	210	0	0	0
30	81	74	2,944	2,944	167	0	0	0
Total	733	653	185,666	185,666	4,245	0	0	0

Table 10. Clifton Court Forebay

Daily Operation of Gates

April 1999

Date	Time								Amount of inflow in Acre-Feet
	Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed	
1	2:40	4:20	7:20	11:30	15:52	21:57			8,119
2	2:53	4:55	7:49	11:50	17:05	22:22			7,133
3	3:11	5:17	8:16	13:50	17:03	23:40			10,093
4	5:05	5:59	9:41	14:45	18:49	---			9,217
5	---	3:35	4:20	7:49	10:13	13:55	20:45	---	10,292
6	---	2:50	5:15	8:20	11:20	13:45	22:30	---	6,421
7	---	4:00	5:30	8:21	11:34	14:00	23:20	---	5,994
8	---	5:00	6:47	10:21	12:30	14:09	23:55	---	8,048
9	---	11:19	13:34	15:01					8,780
10	0:50	12:53	14:45	16:25					10,078
11	1:40	13:19	15:51	20:00					10,061
12	0:59	9:30	12:30	14:32	16:49	19:11			10,596
13	2:12	2:44	5:40	10:10	13:43	19:10			7,526
14	6:39	10:35	16:15	20:35					5,597
15	3:04	4:15	7:11	11:55	15:42	21:30			7,611
16	3:13	4:50	7:49	12:55	17:17	22:40			8,600
17	4:25	5:30	8:25	11:35	18:40	22:55			2,608
18	0:19	1:10	4:45	6:16	9:04	12:55			3,155
19	0:03	1:20	5:40	7:03	9:04	9:33			1,945
20	0:10	2:56	10:47	13:25					1,851
21	0:23	5:17	12:19	15:30					4,310
22	0:15	6:00	8:30	9:22					3,666
23	3:10	8:10	10:10	12:47					3,760
24	4:01	13:13							5,451
25	0:14	1:14	5:00	9:30	12:45	15:58			4,738
26	5:34	10:19	13:49	16:02					4,637
27	6:15	10:08	15:02	19:57					4,660
28	2:08	3:35	6:44	10:30	18:50	20:15			4,167
29	2:05	4:09	7:10	9:35					2,869
30	2:42	4:47	8:25	10:00					2,859
Total inflow for the month in AF:									184,842

Table 11. Governor Edmund G. Brown California Aqueduct
 Delta Field Division, Monthly Deliveries

(In acre-feet)

April 1999

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitle-ment	USBR	Misc.	Loan Water	1997 Carryover Ent.	
	No.	Structure	Mile							
1	Banks Pumping Plant	3.32		185,666						
	South Bay Pumping Plant	4.49	Bethany Reservoir Inlet	4,245						
	Check No. 1	5.95								
	2	Check No. 2	12.01							
	3		12.47	Musco Olive	33		33			
		Check No. 3	18.29							
	4		22.16	Tracy Golf & Country Club	0		0			
		Check No. 4	23.99							
	5	Check No. 5	29.73							
	6	Check No. 6	34.24							
	7		35.22	Turlock Fruit Company Inflow	0					
		Check No. 7	39.91							
2A	8		42.46	Oak Flat Water District-A	0	0	154	62	164	
			43.81	Oak Flat Water District-B	154					
			44.64	Oak Flat Water District-C	62					
		Check No. 8	45.97							
	9		46.18	Oak Flat Water District-D	164	380	0	0	0	
				Oak Flat Totals:	380					
		Check No. 9	51.30							
		10	Check No. 10	56.86						
2B	11	Check No. 11	61.40							
	12		66.14	Veteran's Cemetery	2	2				
		Check No. 12	66.71		180,860					

Table 12. South Bay Aqueduct
Delta Field Division, Monthly Deliveries

(In acre-feet)

April 1999

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries				
	Beginning and Ending				Entitlement	Ext. M & I	Cry. Ovr.	Local	
	No.	Structure	Mile						
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	4,245	2	0	658	
			3.17	Granite - Vasco Rd. (Temp.)	0				
			3.18	Oakland Scavenger Zone 7	2				
		Check No. 1	3.91						
	2	Check No. 2	5.21						
2	3		7.21	Zone 7 Altamont	0	112	38	92	
		Check No. 3		Zone 7 Patterson Inflow Exchange	658				
		No. 3	9.49	Zone 7 Patterson Project Water	0				
	4	Check No. 4	10.68						
4	6	Check No. 5	12.29			112	38	26	
			13.55	Zone 7 Wente #1	112				
			14.16	Zone 7 Wente #2	38				
		Check No. 6	14.65						
			14.78	Zone 7 Arroyo Mocho	92				
		Check No. 7	16.38						
			16.57	Zone 7 Wente #3	26				
			16.69	Zone 7 Norman Nursery	12				
			16.70	Zone 7 Concannon Inflow Exchange	3				
5	8	Del Valle Branch Pipeline Junction	18.63	(Flow into Lake Del Valle)	0	109	5	1,168	
				(Flow into South bay Aqueduct)	0				
		Deliveries through Del Valle Branch Pipeline		Arroyo Valle #1 & #2 Inflow Exchange	109				
				Arroyo Valle #1 & #2 Stored Exchange	0				
				Lake Del Valle Recreation	5				
				Zone 7 Wente #5	0				
			19.20	So. Livermore Project	0				
				So. Livermore Stored Released	0				
				So. Livermore Inflow Exchanged	1,168				
			19.21	Zone 7 - Kalthrof Detjens	37				
6	7	La Costa Tunnel	22.50	ACWD Vallecitos	0	1,561	417	417	
			25.97	City of San Francisco San Antonio	0				
		Mission Tunnel	28.97	ACWD - Bayside 1 & 2 Project Water: Inflow Exchanged	1,561				
	9	Santa Clara Pipeline	35.86	Stored Exchange: S.C.V.W.D. Meter	417				

Table 13. Lake Del Valle

Daily Operation

(in acre-feet except as noted)

April 1999

Capacity: 77,106 ac-ft

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)
				Natural 1/	From South Bay Aqueduct 3/	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/ 3/	Evaporation	Total Outflow 3/	
Mar 31	698.88	37,066									
1	698.97	37,127	61		0	0	0		6		0.00
2	699.03	37,167	40		0	0	0		6		0.00
3	699.09	37,208	41		0	0	0		6		0.00
4	699.15	37,248	40		0	0	0		5		0.00
5	699.28	37,337	89		0	0	0		7		0.00
6	699.36	37,391	54		0	0	0		4		0.49
7	699.46	37,459	68		0	0	0		3		0.01
8	699.68	37,609	150		0	0	0		4		0.55
9	699.90	37,759	150		0	0	0		3		0.00
10	700.09	37,889	130		0	0	0		4		0.06
11	700.39	38,095	206		0	0	0		3		0.08
12	700.96	38,488	393		0	0	0		2		0.00
13	701.31	38,730	242		0	0	0		2		0.00
14	701.51	38,869	139		0	0	0		7		0.00
15	701.67	38,980	111		0	0	0		7		0.00
16	701.79	39,064	84		0	0	0		7		0.00
17	701.90	39,141	77		0	0	0		7		0.00
18	701.99	39,204	63		0	0	0		9		0.00
19	702.07	39,260	56		0	0	0		9		0.00
20	702.15	39,316	56		0	0	0		9		0.00
21	702.19	39,344	28		0	0	0		7		0.00
22	702.23	39,372	28		0	0	0		13		0.00
23	702.26	39,393	21		0	0	0		13		0.00
24	702.30	39,421	28		0	0	0		8		0.00
25	702.35	39,456	35		0	0	0		7		0.00
26	702.40	39,491	35		0	0	0		7		0.00
27	702.42	39,505	14		0	0	0		7		0.00
28	702.45	39,526	21		0	0	0		6		0.00
29	702.46	39,533	7		0	0	0		11		0.00
30	702.47	39,541	8		0	0	0		0		0.00
Total				2,475	2,674	0	0	0	5	190	195
											1.19

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

3/ Not available on a daily basis.

NR=No Records

Table 14. Consolidated State-Federal O'Neill Forebay

Daily Operations

April 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 56,430 Acre-feet

Date	Water Surface Elev. (in feet)	Storage Change (ac-ft)	Pump In 1/	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
				O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct	O'Neill Pumping Generating Plant (Generation)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliv- eries 2/		
Mar 31	220.94	45,603										
1	220.55	44,583	-1,020	0	1,107	0	4,210	0	0	5,654	10	-167
2	219.59	42,093	-2,490	0	949	0	3,337	0	0	5,539	12	10
3	219.88	42,841	748	0	894	0	4,767	0	0	5,037	10	-237
3/ 4	221.26	46,442	3,601	0	857	0	6,343	0	632	4,598	10	-66
5	222.24	49,022	2,580	0	770	122	4,539	0	0	3,988	10	-132
6	221.05	45,892	-3,130	0	795	0	3,205	0	0	5,425	10	-143
7	220.10	43,411	-2,481	0	789	0	3,322	0	0	5,250	7	-105
8	219.20	41,093	-2,318	0	668	0	4,079	0	499	5,326	9	-82
9	219.76	42,531	1,438	0	1,535	0	4,530	0	0	5,114	10	-216
10	220.90	45,498	2,967	0	2,008	0	4,749	0	0	5,152	12	-97
11	222.86	50,673	5,175	0	2,055	0	6,202	0	1,721	4,093	12	178
12	223.60	52,652	1,979	0	2,075	0	3,611	0	145	4,170	8	-365
13	223.83	53,269	617	0	1,493	0	2,923	0	508	3,729	17	149
14	223.11	51,340	-1,929	0	890	263	2,706	0	508	4,412	22	110
15	223.43	52,196	856	0	881	88	4,241	0	505	4,195	24	-54
16	223.52	52,437	241	0	1,284	0	4,047	0	0	5,085	24	-101
17	221.92	48,176	-4,261	0	1,106	0	1,816	0	0	4,877	18	-175
18	220.60	44,714	-3,462	0	615	0	1,134	0	0	3,348	12	-134
19	220.27	43,853	-861	0	275	2,289	1,610	0	0	4,517	12	-79
20	219.19	41,068	-2,785	0	0	2,559	279	0	0	4,060	20	-162
21	219.13	40,915	-153	0	0	2,811	2,336	656	0	4,245	32	-291
22	219.76	42,531	1,616	0	0	5,625	1,820	1,117	0	5,195	36	-282
23	220.54	44,557	2,026	0	0	4,729	2,346	917	0	4,912	36	-189
24	221.95	48,255	3,698	0	0	6,282	2,008	814	0	5,242	33	-337
25	220.00	43,152	-5,103	0	0	1,312	2,122	1,019	0	4,992	31	35
26	219.11	40,864	-2,288	0	0	3,768	2,035	1,240	0	5,468	26	-223
27	219.10	40,839	-25	0	0	4,813	2,032	1,505	0	5,260	26	-67
28	219.23	41,170	331	0	0	5,932	2,297	1,846	0	6,094	26	-96
29	219.97	43,074	1,904	0	0	7,113	1,429	1,509	0	5,801	22	-250
30	221.39	46,784	3,710	0	0	7,584	1,372	1,237	0	5,924	23	98
Total			1,181	0	21,046	55,290	91,447	11,860	4,518	146,702	560	-3,469
Mean cfs			---	0	702	1,843	3,048	395	151	4,890	19	-116
ac-ft			1,181	0	41,669	109,667	180,860	23,524	8,906	290,604	1,111	-6,870

1/ Pump-in located at Mile 79.67R.

2/ Includes 70 AF delivered to DFG at O'Neill Forebay.

3/ 23 hr day; the factor for converting CFS to AF is 1.9008

Table 15. Consolidated State-Federal San Luis Reservoir

Daily Operations

April 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 2,027,835 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Parks and Rec. Del.		
Mar 31	543.00	2,027,835							
1	542.95	2,027,200	-635	0	0	183	0	-137	
2	542.91	2,026,692	-508	0	0	187	0	-69	
3	542.86	2,026,057	-635	0	0	192	0	-128	
3/ 4	542.86	2,026,057	0	632	0	197	0	-435	
5	542.84	2,025,803	-254	0	122	189	0	183	
6	542.80	2,025,295	-508	0	0	190	0	-66	
7	542.78	2,025,041	-254	0	0	174	0	46	
8	542.79	2,025,168	127	499	0	164	0	-271	
9	542.78	2,025,041	-127	0	0	180	0	116	
10	542.74	2,024,533	-508	0	0	185	0	-71	
11	542.90	2,026,565	2,032	1,721	0	185	0	-512	
12	542.90	2,026,565	0	145	0	179	0	34	
13	542.96	2,027,327	762	508	0	189	0	65	
2/ 14	543.11	2,029,233	1,906	508	263	219	0	935	
15	543.11	2,029,233	0	505	88	199	0	-218	
16	543.09	2,028,979	-254	0	0	192	0	64	
17	543.05	2,028,471	-508	0	0	221	0	-35	
18	543.00	2,027,835	-636	0	0	257	0	-64	
19	542.60	2,022,755	-5,080	0	2,289	251	0	-21	
20	542.16	2,017,171	-5,584	0	2,559	226	0	-30	
21	541.68	2,011,087	-6,084	0	2,811	154	0	-102	
22	540.76	1,999,442	-11,645	0	5,625	160	0	-86	
23	539.99	1,989,714	-9,728	0	4,729	159	0	-16	
24	539.00	1,977,230	-12,484	0	6,282	168	0	156	
25	538.75	1,974,082	-3,148	0	1,312	165	0	-110	
26	538.14	1,966,408	-7,674	0	3,768	161	0	60	
27	537.31	1,955,984	-10,424	0	4,813	166	0	-276	
28	536.33	1,943,700	-12,284	0	5,932	170	0	-91	
29	535.17	1,929,194	-14,506	0	7,113	172	0	-28	
30	533.94	1,913,855	-15,339	0	7,584	224	0	75	
Total			-113,980	4,518	55,290	5,658	0	-1,032	
Mean cfs ac-ft			-----	151	1,843	189	0	-34	
			-113,980	8,906	109,667	11,208	0	-2,011	

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 9,961 AF, San Benito: 1,247 AF.

2/ Reset encoder.

3/ 23 Hr. day; the factor for converting CFS to AF is 1.9008.

Table 16. San Luis Field Division Plant Data

(in acre-feet)

April 1999

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant				San Felipe Project
	Total Pumping	SWP Pumping 1/, 2/	Total Generation	SWP Generation 1/, 2/	Total Pumping	SWP Pumping 1/, 2/	Federal
1	11,215	9,230	0	0	0	0	363
2	10,987	9,022	0	0	0	0	370
3	9,991	8,023	0	0	0	0	381
4	8,739	6,946	0	0	1,201	59	375
5	7,911	6,251	242	242	0	0	375
6	10,761	9,053	0	0	0	0	376
7	10,413	8,708	0	0	0	0	346
8	10,565	8,876	0	0	989	989	325
9	10,143	8,485	0	0	0	0	358
10	10,219	8,523	0	0	0	0	366
11	8,118	6,429	0	0	3,413	-2	367
12	8,272	6,551	0	0	288	288	355
13	7,397	5,672	0	0	1,007	6	375
14	8,752	6,988	521	521	1,007	1,007	435
15	8,320	6,588	174	174	1,001	428	394
16	10,086	8,366	0	0	0	0	381
17	9,673	7,997	0	0	0	0	438
18	6,640	4,976	0	0	0	0	509
19	8,960	7,294	4,541	4,541	0	0	498
20	8,054	6,359	5,076	5,076	0	0	449
21	8,420	6,771	5,575	3,572	0	0	306
22	10,305	7,832	11,157	5,655	0	0	318
23	9,742	7,213	9,380	3,879	0	0	316
24	10,397	6,720	12,461	4,502	0	0	334
25	9,902	6,341	2,603	-25	0	0	328
26	10,845	7,278	7,473	2,213	0	0	319
27	10,433	6,874	9,546	4,408	0	0	329
28	12,088	8,444	11,767	3,849	0	0	337
29	11,506	7,478	14,109	7,321	0	0	341
30	11,750	7,651	15,042	5,891	0	0	444
Total	290,604	222,939	109,667	51,819	8,906	2,775	11,208

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;
adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

Table 17. Consolidated State-Federal Los Banos Reservoir

Daily Operations

April 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 34,560 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Mar 31	328.29	20,806					
1	328.34	20,830	24	12	0	0	0
2	328.37	20,844	14	7	0	0	0
3	328.38	20,849	5	3	0	0	-1
4	328.41	20,863	14	7	0	0	0
5	328.45	20,882	19	10	0	0	-1
6	328.51	20,910	28	14	0	0	0
7	328.56	20,934	24	12	0	0	0
8	328.62	20,963	29	15	0	0	-1
9	328.74	21,019	56	28	0	0	0
10	328.84	21,067	48	24	0	0	0
11	328.92	21,105	38	19	0	0	0
12	329.01	21,148	43	22	0	0	-1
13	329.09	21,186	38	19	0	0	0
14	329.17	21,224	38	19	0	0	0
15	329.23	21,253	29	15	0	0	-1
16	329.23	21,253	0	0	0	0	0
17	329.32	21,296	43	22	0	0	-1
18	329.35	21,310	14	7	0	0	0
19	329.38	21,325	15	8	0	0	-1
20	329.40	21,334	9	5	0	0	-1
21	329.41	21,339	5	3	0	0	-1
22	329.42	21,344	5	3	0	0	-1
23	329.43	21,349	5	3	0	0	-1
24	329.42	21,344	-5	0	0	0	-5
25	329.44	21,353	9	5	0	0	-1
26	329.46	21,363	10	5	0	0	0
1/ 27	329.46	21,363	0	1	0	0.5	-1
28	329.45	21,358	-5	0	0	0	-5
29	329.46	21,363	5	3	0	0	-1
30	329.47	21,368	5	3	0	0	-1
Total			562	294	0	0.5	-25
Mean cfs-days			---	9	0	0	---
Acre-feet			562	583	0	1	-25

1/ Exercised gates: Released 1 AF.

Table 18. Consolidated State-Federal Little Panoche Reservoir

Daily Operations

April 1999

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 5,580 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Computed Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)
					Spill	Outlet	
Mar 31	602.70	832					
1	Not Observed			5	0	5	0
2	602.70	832	0	5	0	5	0
3	Not Observed			5	0	5	0
4	Not Observed			5	0	5	0
5	Not Observed			5	0	5	0
6	Not Observed			5	0	5	0
7	602.70	832	0	5	0	5	0
8	Not Observed			5	0	5	0
9	Not Observed			5	0	5	0
10	Not Observed			5	0	5	0
11	602.70	832	0	5	0	5	0
12	602.70	832	0	5	0	5	0
13	Not Observed			5	0	5	0
14	Not Observed			5	0	5	0
15	Not Observed			5	0	5	0
16	602.70	832	0	5	0	5	0
17	Not Observed			5	0	5	0
18	Not Observed			5	0	5	0
19	Not Observed			5	0	5	0
20	Not Observed			5	0	5	0
21	602.70	832	0	5	0	5	0
22	Not Observed			5	0	5	0
23	602.70	832	0	3	0	3	0
24	Not Observed			3	0	3	0
25	Not Observed			3	0	3	0
26	Not Observed			3	0	3	0
27	Not Observed			3	0	3	0
28	Not Observed			6	0	6	0
29	Not Observed			6	0	6	0
30	602.70	832	0	6	0	6	0
Total			0	143	0	143	0
Mean cfs			---	5	0	5	0
ac-ft			0	284	0	284	0

1/ Not available on a daily basis

Table 19a. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries

(In acre-feet)

April 1999

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries					
	Beginning and Ending					USBR	Transfer	DWR	USBR		
	No.	Structure	Mile					Recreation	Recreation		
2B	12	Check No. 12	66.71		180,860						
3	13	O'Neill Forebay		Department of Parks and Recreation	12			7	5		
		Outlet Check No. 13	70.85	Department of Fish & Game	70			38	32		
		70.91 Thru		San Luis Water District	1,041	1,041					
			85.08	(Floodwater Inflow)	0						
				Reach 3 Subtotal:	1,123	1,041	0	44	38		
		Dos Amigos Pumping Plant	86.73		290,604						
4	14	89.03 Thru 94.06		San Luis Water District	3,819	3,819					
			89.66	Pacheco Water District	1,003						
			89.67								
			89.68	Panoche Water District	4						
			89.70	City of Dos Palos	91						
		Check No. 14	95.06								
		98.15 Thru 104.20		San Luis Water District	187	187					
			96.15	Panoche Water District	3,060						
			102.64	(Floodwater Inflow)	0						
		102.64 Thru 108.64		Broadview Water District	0	3,060					
			105.22	Westlands Water District	6,870						
			108.64								
		Check No.15	108.50								
				Pacheco Water District Total:	1,003	1,003	0	0	0		
				Broadview Water District Total:	0	0	0	0	0		
				City of Dos Palos Total:	91	91	0	0	0		
				SLWD Reach 4 Subtotal:	4,006	4,006	0	0	0		
				Panoche Water District Total:	3,064	3,064	0	0	0		
				SLWD Total:	5,047	5,047	0	0	0		
				Westlands WD Reach 4 Subtotal:	6,870	6,870	0	0	0		

Table 19b. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

April 1999

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries							
	Beginning and Ending					USBR	Transfer	DWR	USBR				
	No.	Structure	Mile					Recreation	Recreation				
5	16		110.52	(Reverse flow, Kings River)	0	12,408		1	0				
			Thru	Westlands Water District	12,408								
			122.05	Department of Fish and Game	1								
		Check No. 16	122.07										
	17		124.18	Westlands Water District	10,594	10,594		1	0				
			132.74										
		Check No. 17	132.95										
	18		133.81	Westlands Water District	9,907	9,907		1	0				
			Thru										
			142.61										
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	8,098	8,098		1	0				
			143.16	City of Coalinga	276								
		Check No. 18	143.23										
				Westlands WD Reach 5 Subtotal:	41,007	41,007	0	0	0				
6	19		145.26	Westlands Water District	13,640	13,640		1	0				
			Thru										
			151.19										
		Check No. 19	155.64										
				Westlands WD Reach 6 Subtotal:	13,640	13,640	0	0	0				
7	20		156.34	City of Huron	97	97		1	0				
			156.40	Westlands Water District	8,493								
			163.69										
		Check No. 20	164.69										
	21		164.79	City of Avenal	159	159		1	0				
			167.04	Westlands Water District	3,819								
			171.67										
		Check No. 21	172.40		208,896								
				Reach 7 Total:	12,568	12,568	0	0	0				
				Westlands WD Total:	73,829	73,829	0	0	0				
				City of Coalinga Total:	276	276	0	0	0				
				City of Huron Total:	97	97	0	0	0				
				City of Avenal Total:	159	159	0	0	0				
				Phase I Water Total:	3	3	0	0	0				
				Total San Luis Field Division Deliveries:	83,652	83,569	0	45	38				

Table 20. Consolidated State-Federal San Luis Canal 1/

Daily Operations
April 1999

United States
Department of the Interior
Bureau of Reclamation
Central Valley Projec

State of California
The Resources Agency
Department of Water Resources
State Water Projec

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
			Non- Project 2/	Dos Amigos Pumping Plant	San Luis Water Dist. 3/	Panoche Water District	Westlands Water Dist. 4/	Flow Past Check 21	
Mar 31	28,181								
1	28,160	-21	0	5,654	57	41	1,085	4,361	-120
2	27,558	-602	0	5,539	73	41	1,211	4,504	-14
3	28,381	823	0	5,037	88	27	1,052	3,633	178
4	29,134	753	0	4,406	75	28	1,015	3,500	592
5	27,854	-1,280	0	3,988	47	28	688	3,707	-164
6	27,692	-162	0	5,425	101	53	1,174	4,197	18
7	27,707	15	0	5,250	104	57	1,195	3,979	92
8	28,370	663	0	5,326	78	50	1,062	3,873	72
9	28,343	-27	0	5,114	85	37	1,065	4,128	187
10	28,749	406	0	5,152	56	50	1,008	3,777	-57
11	28,862	113	0	4,093	82	50	841	3,414	351
12	29,467	605	0	4,170	91	37	649	3,215	127
13	29,124	-343	0	3,729	87	26	647	3,156	14
14	29,066	-58	0	4,412	80	26	603	3,359	-374
15	28,490	-576	0	4,195	94	38	1,110	3,355	112
16	28,565	75	0	5,085	94	39	1,112	3,922	120
17	29,764	1,199	0	4,877	96	33	1,154	2,798	-192
18	29,268	-496	0	3,348	87	40	1,206	2,259	-6
19	29,062	-206	0	4,517	94	38	1,298	2,776	-414
20	27,604	-1,458	0	4,060	92	78	1,511	2,856	-258
21	27,604	0	0	4,245	91	77	1,429	3,390	742
22	28,462	858	0	5,195	90	78	1,423	3,229	57
23	27,913	-549	0	4,912	98	78	1,418	3,504	-91
24	27,940	27	0	5,242	92	87	1,735	3,049	-265
25	28,126	186	0	4,992	81	92	1,878	3,038	190
26	28,139	13	0	5,468	91	59	1,708	3,546	-58
27	28,008	-131	0	5,260	92	60	1,783	3,418	27
28	28,716	708	0	6,094	93	60	1,841	3,862	119
29	29,207	491	0	5,801	90	68	1,831	3,680	116
30	28,508	-699	0	5,924	92	68	1,760	3,832	-525
Total		327	0	146,510	2,571	1,544	37,492	105,317	579
Mean (cfs)		---	0	4,814	85	50	1,211	3,493	19
Acre-feet		327	0	290,604	5,100	3,064	74,365	208,896	1,148

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Pump In of Non-Project Water (0 AF @ Lat.7L) and Flood Water (0 AF) is included in the gain or loss.

3/ Includes 1,002 AF AG & 1 AF M&I to Pacheco W.D. and 91 AF to the City of Dos Palo

4/ Includes 97 AF to the City of Huron, 159 AF to the City of Avenal, 276 AF to the City of Coalinga, 3 ,

Phase I Water @ Lat. 13R, and 0 AF to Broadview W.D

Table 21. San Joaquin Field Division Plant Data

(in acre-feet)

April 1999

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	349	349	36	36	36	4,653	4,290	4,373	4,270
2	305	305	36	36	36	4,653	4,322	4,214	4,104
3	302	302	62	63	63	3,892	3,846	3,722	3,658
4	164	164	42	44	44	4,229	4,155	4,085	3,975
5	422	422	46	46	46	4,480	4,377	4,215	4,166
6	206	206	55	56	59	4,506	4,402	4,207	4,112
7	254	254	57	57	57	4,438	4,368	4,234	4,217
8	241	241	40	42	44	4,446	4,311	4,145	4,080
9	314	314	29	28	29	4,674	4,496	4,267	4,176
10	301	301	42	46	48	4,405	4,208	4,012	3,953
11	245	245	46	46	46	4,304	4,196	4,111	4,107
12	238	238	46	46	46	4,347	4,411	4,265	4,190
13	250	250	64	66	70	4,238	4,374	4,254	4,187
14	227	227	19	19	18	4,442	4,356	4,254	4,217
15	295	295	46	46	47	4,057	4,060	3,939	3,921
16	214	214	25	25	25	4,476	4,307	4,094	4,085
17	271	271	64	65	66	1,997	1,994	1,862	1,871
18	266	266	44	46	48	2,424	1,979	1,833	1,819
19	274	274	66	66	67	1,970	2,026	1,885	2,013
20	263	263	65	65	65	2,446	2,249	2,150	1,991
21	283	283	48	48	50	2,625	2,425	2,244	2,212
22	317	317	78	78	79	2,785	2,495	2,286	2,234
23	388	388	44	46	47	2,402	2,159	2,020	1,936
24	494	494	46	46	46	2,187	1,901	1,737	1,865
25	487	487	68	70	71	2,530	2,206	2,042	2,045
26	546	546	46	46	48	2,908	2,731	2,593	2,619
27	578	578	66	66	67	2,985	2,858	2,735	2,627
28	507	507	73	76	78	3,231	2,946	2,754	2,656
29	391	391	44	46	48	3,131	2,843	2,727	2,627
30	352	352	61	61	61	3,060	2,720	2,614	2,583
Total	9,744	9,744	1,504	1,527	1,555	106,921	102,011	97,873	96,516

Table 22a. Governor Edmund G. Brown California Aqueduct
San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

April 1999

Reach No.	Operating Pool		Turnout	Total Diver-sions	Deliveries					
	Beginning and Ending				Entitle-ment	Inter-ruptible Ent.	MWD Int. Ent. 1/	Stored Ent. 2/	MWD Ent. 1/	
	No.	Structure	Mile							
7	21	Check No. 21	172.40	208,896						
8C	22		Empire West Side Irrig. Dist. TL - A 172.66 County of Kings TL - A TLBWSA TL-A 175.18 DRWD - 1 177.54 DRWD - 1B 180.64 TLBWSA - C 180.65 DRWD - 1A 182.99 DRWD - 2 183.00 Tulare Lake Basin WSD TL - B 184.63 Coastal Branch Dudley Ridge Water Dist. DRWD - 3 184.78 Dudley Ridge Reach 8D Total: Tulare Lake Basin WSD Total:	148						
				148	148					
				2,514		1,197	424			
				49			99			
				1,852						
				420		5,006				
				1,309						
				3,210	523	0	0	0	0	
				2,934	6,203	0	0	0	0	
				184.82						
8D	23		Kern County Water Agency Lost Hills Water Dist. - 1 189.69 Kern County Water Agency Lost Hills Water Dist. - 2 191.18 Kern County Water Agency Lost Hills Water Dist. - 3 194.22 Kern County Water Agency Berrenda Mesa - 2 196.40 Kern County Water Agency Lost Hills Water Dist. - 4 196.75 K.C.W.A. Reach 9 Subtotal:	1,946	1,946					
				363						
				1,699						
				0						
				1,243	583					
				5,251	583	0	0	0	0	
				197.05						
				743						
				2,431						
				363	440					
10A	24		Kern County Water Agency Lost Hills Water Dist. - 7 201.24 Kern County Water Agency Lost Hills Water Dist. - 5 202.05 Kern County Water Agency Lost Hills Water Dist. - 6 204.69 Kern County Water Agency Lost Hills Water Dist. - 8 205.26 Check No. 24	743						
				2,431						
				363	440					
				363						
				6						
				258						
				3,920						
				3,060						
				3,863						
				10,257						
10A	25		Kern County Water Agency Belridge Water Storage Dist. - 1A 209.71 Kern National Wildlife Refuge USBR BV-1B 209.78 Kern County Water Agency Buena Vista WSD 1B 209.80 KCWA Semitropic WSD KCWA Semitropic WSD Penstocks USBR Total: K.C.W.A. Reach 10A Subtotal:	803						
				0						
				258						
				6						
				3,920						
				3,060						
				14,120						

1/ Semitropic WSD is storing this water for MWD.

2/ Semitropic WSD is storing 1,870 AF of this water for Santa Clara Valley WD; 320 AF for Alameda County WD, and 870 AF for Alameda County WD-Zone 7.

Table 22b. Governor Edmund G. Brown California Aqueduct
 San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

April 1999

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries						
	Beginning and Ending		Mile			Entitle- ment	Inter- ruptible Ent.	MWD Int. Ent.	Stored Ent.	MWD Ent. 2/		
	No.	Structure										
11B	25		210.75	Kern County Water Agency Belridge - 2	0	459	513	0	0	0		
			214.11	Kern County Water Agency Belridge - 3	459							
			216.62	Kern County Water Agency Belridge - 4	0							
			217.13	Kern County Water Agency Belridge - 5	5,513							
				Kern County Water Agency Belridge - 5D	156							
		Check No. 25	217.79			5,615	513	0	0	0		
				K.C.W.A. Reach 11B Subtotal:	6,128							
12D	26		219.58	Kern County Water Agency Belridge - 6	0	11,731	6,552	0	0	0		
		Check No. 26	224.92									
12E	27		230.37	Kern County Water Agency Buena Vista - 6	0							
			Check No. 27	231.73								
	28		235.75	Kern County Water Agency Buena Vista - 2	0							
			238.04	Kern County WA CVC	34,199							
				DRWD CVC	0							
				Tulare Co.	0							
				Lower Tule River	0							
				Fresno Co.	0							
				Pixley ID	0							
				Hacienda DWR Wells	0							
		Check No. 28	238.11			0	0	0	0	0		
				1/ Arvin Edison Total:	0							
				Reach 12E Subtotal:	34,199	11,731	6,552	0	0	15,916		
13B	29		241.02	Kern River Intertie (inflow)	0	1,259	140	0	0	0		
				KCWA Buena Vista WSD - 7	0							
			242.85	KCWA Buena Vista WSD - 5	0							
				Kern County Water Agency Buena Vista - 3	1,259							
	30		Check No. 29	244.54	Buena Vista WSD	0	388	1,399	0	0		
				Kern County Water Agency Buena Vista - 4	528							
				Buena Vista Pumping Plant	106,921							
				K.C.W.A. Reach 13B Subtotal:	1,787							
14A	31		254.47	Kern County Water Agency West Kern - 2	0	69		0	0	0		
			256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	69							

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

2/ Arvin-Edison WSD groundwater basin is storing this entitlement water for MWD.

Table 22c. Governor Edmund G. Brown California Aqueduct
San Joaquin Field Division, Monthly Deliveries (Continued)

April 1999

(In acre-feet)

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending		Structure			Entitle- ment	Inter- ruptible Ent.	MWD Int. Ent.	Stored Ent.	MWD Ent. 1/	
	No.	Structure	Mile								
14A	31	Check No. 31	256.14			429					
	32		258.61	Kern County Water Agency Wheeler Ridge-Maricopa - 3	429		71	1,009	0	0	
			260.44	Kern County Water Agency Wheeler Ridge-Maricopa - 4	1,080						
			Check No. 32	261.72							
				KCWA Reach 14A Subtotal:	1,578		569	1,009	0	0	
14B	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	1,841	997	844	1,721	0	0	
			266.91	Kern County Water Agency Wheeler Ridge-Maricopa - 6	254						
			Check No. 33	267.36							
	34		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 7	1,721						
			Check No. 34	271.27							
				Reach 14B Total:	3,816		1,251	2,565	0	0	
14C	35		272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 8	1,284	1,171	113	976	0	0	
			276.09	Kern County Water Agency Wheeler Ridge-Maricopa - 9	976						
				Reach 14C Total:	2,260						
			Teerink Pumping Plant	278.13							
15A	36		279.02	Kern County Water Agency Wheeler Ridge-Maricopa - 9A	242	242	1,026	0	0	0	
			280.06	Kern County Water Agency Wheeler Ridge-Maricopa - 10	1,966						
				Reach 15-A Total:	2,208						
			Chrisman Pumping Plant	280.36							
	37		282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 11	0						
16A	38		Check No. 37	283.95							
				285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 12	5	578	351	0	0	
				286.39	Kern County Water Agency Wheeler Ridge-Maricopa - 13A	223					
				287.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13	0					
			Check No. 38	287.09							
			39	287.62	Kern County Water Agency Wheeler Ridge-Maricopa - 13B	4					
				Check No. 39	290.21						
			40	291.26	Kern County Water Agency Wheeler Ridge-Maricopa - 14	642					
				293.07	Kern County Water Agency Wheeler Ridge-Maricopa - 15	55					
					Kern County Water Agency Tehachapi Cummings CWD	0					
					K.C.W.A. Reach 16A Subtotal:	929					
17E	Edmonston Pumping Plant	293.45				96,516					

1/ Arvin-Edison WSD is storing this entitlement water for MWD.

Table 23. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

April 1999

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending		Mile			Entitlement	Inter-ruptible Ent.	MWD Int. Ent. 1/	Stored Entitlement 2/	MWD Entitlement 3/		
	No.	Structure										
31A	C-1	Coastal Branch Control	0.02		9,744	1,210						
		Las Perillas Pumping Plant	1.16		9,744							
	C-2		3.79	Green Valley Water District	0							
		Badger Hill Pumping Plant	4.27		9,744							
	C-3	Coastal Check No. 3	7.21									
	C-4		9.34	Castaic Lake WA (Devil's Den WD #1)	1,210							
		Coastal Check No. 4	9.34									
	C-5	Coastal Check No. 5	12.20									
			13.30	Kern County Water Agency Berrenda Mesa - 3	496							
	C-6		14.83	Kern County Water Agency Berrenda Mesa - DD	0							
				Kern County Water Agency Berrenda Mesa - PO	6,421							
		Devil's Den Pumping Plant	14.86		1,504							
				K.C.W.A. Reach 31A Subtotal:	6,917	6,917	0	0	0	0		
				K.C.W.A. Total:	90,997	38,454	15,527	3,920	3,060	30,036		
33A	C-7	Bluestone Pumping Plant	19.05		1,527	1,293						
	C-8	Polonio Pass Pumping Plant	26.54		1,555							
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant								
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	1,293							
		Tank Site 2	58.63	Central Coast:	0							
34	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	279	279						
		Energy Dissipater	78.12									
		Lopez T.O.	85.86	SLOCFC & WCD	0							
35	C-12			CCWA Total:	1,572	1,572	0	0	0	0		
		Guadalupe T.O.	102.70	SBCFC & WCD	0							
		Santa Maria T.O.	107.43	SBCFC & WCD	0							
		So. Cal. Water T.O.	109.20	SBCFC & WCD	0							
38				SBCFC & WCD Total:	0	0	0	0	0	0		
		Tank Site 5	115.42									

1/ Semitropic WSD is storing this water for MWD.

2/ Semitropic WSD is storing 1,870 AF of this water for Santa Clara Valley WD; 320 AF for Alameda County WD, and 870 AF for Alameda County WD-Zone 7.

3/ Semitropic WSD is storing 14,120 AF of this amount, and Arvin-Edison WSD groundwater basin is storing 15,916 AF for MWD.

Table 24. Southern Field Division Plant Data

(in acre-feet)

April 1999

Date	West Branch					East Branch							
	Oso Pumping Plant	Warne Powerplant		Castaic Powerplant		Alamo Powerplant			Pearblossom Pumping Plant	Mojave Siphon Powerplant			Devil Canyon Powerplant Generation
		Generation	Leakage	Generation	Pumpback	Generation	Bypass Through Plant	Cottonwood Chute		Generation	Leakage	Bypass Flume	
1	2,777	2,661	0	5,651	1,412	1,525	0	0	986	1,185	0	0	1,350
2	2,807	2,959	0	5,545	563	1,284	0	0	1,112	1,564	0	0	1,107
3	2,528	2,753	0	2,396	0	1,149	0	0	630	564	0	0	451
4	3,264	1,530	0	1,304	1,376	638	0	0	555	708	0	0	0
5	2,729	3,025	0	5,212	1,820	1,413	0	0	1,202	1,432	0	0	1,422
6	2,550	2,700	0	5,259	769	1,599	0	0	1,249	714	0	0	1,294
7	2,653	2,727	0	5,863	1,319	1,497	0	0	1,298	1,465	0	0	1,203
8	950	2,809	0	7,942	96	3,140	0	0	766	852	0	0	1,146
9	2,863	2,950	0	5,350	2,276	1,323	0	0	1,173	922	0	0	1,073
10	2,664	2,902	0	467	65	1,301	0	0	1,232	1,394	0	0	1,028
11	2,450	2,657	0	427	3,389	1,635	0	0	1,299	1,372	0	0	1,170
12	2,883	3,044	0	4,705	1,818	1,311	0	0	1,008	991	0	0	1,294
13	2,655	2,852	0	4,431	1,533	1,522	0	0	1,231	1,388	0	0	1,206
14	2,716	2,913	0	6,419	432	1,506	0	0	1,232	1,212	0	9	1,252
15	2,713	2,820	0	5,886	3,242	1,223	0	0	1,022	935	0	9	1,145
16	2,801	2,972	0	3,802	3,197	1,276	0	0	1,146	1,007	0	20	1,190
17	991	669	0	3,057	1,812	857	0	0	991	1,002	0	21	1,123
18	559	22	0	603	2,593	1,085	0	0	1,111	1,150	0	23	1,259
19	887	746	0	7,479	2,777	1,092	0	0	1,013	1,007	0	4	1,210
20	628	688	0	4,675	2,274	1,323	0	0	704	623	0	0	990
21	582	795	0	2,801	3,773	1,540	0	0	1,353	1,264	0	0	839
22	649	789	0	5,067	2,152	1,549	0	0	1,090	1,185	0	0	1,129
23	627	790	0	3,590	2,400	1,241	0	0	913	777	0	0	961
24	733	789	0	2,379	3,695	1,119	0	0	867	795	0	0	784
25	683	0	0	1,404	4,920	1,262	0	0	1,022	856	0	0	814
26	621	890	0	5,958	3,137	1,928	0	0	1,676	1,769	0	0	1,419
27	638	1,004	0	5,037	3,935	316	0	555	1,679	1,772	0	0	1,728
28	680	725	0	5,757	4,331	1,332	0	582	1,673	1,361	0	0	1,560
29	706	685	0	5,150	3,315	1,819	0	60	1,288	1,839	0	0	1,685
30	838	683	0	5,582	3,558	1,682	0	13	1,652	1,532	0	0	1,498
Total	51,825	53,549	0	129,198	67,979	41,487	0	1,210	34,173	34,637	0	86	34,330

Table 25. Pyramid Lake
Daily Operation

Capacity: 171,200 ac-ft

(in acre-feet except as noted)

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow			Computed Losses (-) Gains (+)
				Project		Natural	Project		Natural	
				Castaic Powerplant Pumpback	Warne Powerplant	Stream Flow	Castaic Powerplant Generation	Recreation Deliveries	To Piru Creek	
Mar 31	2575.96	167,281								
1	2574.92	165,955	-1,326	1,412	2,661	71	5,651	0	50	231
2	2573.32	163,929	-2,026	563	2,959	71	5,545	0	50	-24
3	2573.67	164,371	442	0	2,753	69	2,396	0	50	66
4	2574.96	166,006	1,635	1,376	1,530	72	1,304	0	50	11
5	2574.76	165,752	-254	1,820	3,025	72	5,212	0	50	91
6	2573.40	164,030	-1,722	769	2,700	81	5,259	0	99	86
7	2571.93	162,183	-1,847	1,319	2,727	88	5,863	0	99	-19
8	2567.89	157,175	-5,008	96	2,809	81	7,942	0	99	47
9	2567.70	156,942	-233	2,276	2,950	81	5,350	0	79	-111
10	2569.72	159,431	2,489	65	2,902	76	467	0	79	-8
11	2574.42	165,320	5,889	3,389	2,657	134	427	0	79	215
12	2574.70	165,676	356	1,818	3,044	271	4,705	0	117	45
13	2574.89	165,917	241	1,533	2,852	196	4,431	0	198	289
14	2572.41	162,785	-3,132	432	2,913	304	6,419	0	198	-164
15	2572.66	163,099	314	3,242	2,820	277	5,886	0	198	59
16	2574.50	165,422	2,323	3,197	2,972	207	3,802	0	198	-53
17	2574.12	164,940	-482	1,812	669	173	3,057	0	149	70
18	2575.72	166,974	2,034	2,593	22	153	603	0	149	18
19	2572.75	163,212	-3,762	2,777	746	138	7,479	0	119	175
20	2571.43	161,558	-1,654	2,274	688	127	4,675	0	99	31
21	2572.70	163,149	1,591	3,773	795	113	2,801	0	99	-190
22	2571.05	161,083	-2,066	2,152	789	105	5,067	0	89	44
23	2570.73	160,685	-398	2,400	790	98	3,590	0	89	-7
24	2572.46	162,847	2,162	3,695	789	94	2,379	0	89	52
25	2575.30	166,439	3,592	4,920	0	87	1,404	0	89	78
26	2573.80	164,535	-1,904	3,137	890	80	5,958	0	89	36
27	2573.72	164,434	-101	3,935	1,004	75	5,037	0	50	-28
28	2573.14	163,703	-731	4,331	725	75	5,757	0	50	-55
29	2572.08	162,371	-1,332	3,315	685	73	5,150	0	50	-205
30	2571.11	161,158	-1,213	3,558	683	71	5,582	0	50	107
Total				-6,123	67,979	53,549	3,613	129,198	0	2,953
										887

Table 26. Elderberry Forebay

Daily Operation

(in acre-feet except as noted)

Capacity: 32,746 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)	
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake			
					Natural		Natural	Project		
Mar 31	1512.82	20,286								
1	1511.41	19,731	-555	5,651	13	1,412	13	4,792	-2	
2	1520.37	23,398	3,667	5,545	13	563	13	1,311	-4	
3	1516.14	21,625	-1,773	2,396	14	0	14	4,166	-3	
4	1512.34	20,096	-1,529	1,304	16	1,376	16	1,451	-6	
5	1512.33	20,092	-4	5,212	16	1,820	16	3,390	-6	
6	1515.33	21,295	1,203	5,259	24	769	24	3,283	-4	
7	1513.24	20,453	-842	5,863	31	1,319	31	5,375	-11	
8	1524.76	25,309	4,856	7,942	27	96	27	2,983	-7	
9	1519.83	23,168	-2,141	5,350	25	2,276	25	5,210	-5	
10	1520.72	23,548	380	467	22	65	22	0	-22	
11	1513.70	20,636	-2,912	427	42	3,389	42	0	50	
12	1514.95	21,140	504	4,705	126	1,818	126	2,217	-166	
13	1514.53	20,970	-170	4,431	83	1,533	83	3,011	-57	
14	1519.85	23,177	2,207	6,419	64	432	64	3,761	-19	
15	1519.02	22,825	-352	5,886	51	3,242	51	2,985	-11	
16	1516.76	21,881	-944	3,802	43	3,197	43	1,471	-78	
17	1519.47	23,015	1,134	3,057	35	1,812	35	0	-111	
18	1514.63	21,010	-2,005	603	29	2,593	29	0	-15	
19	1518.27	22,509	1,499	7,479	25	2,777	25	3,195	-8	
20	1523.78	24,877	2,368	4,675	22	2,274	22	0	-33	
21	1517.12	22,030	-2,847	2,801	21	3,773	21	1,845	-30	
22	1519.92	23,206	1,176	5,067	21	2,152	21	1,724	-15	
23	1522.78	24,439	1,233	3,590	20	2,400	20	0	43	
24	1519.59	23,066	-1,373	2,379	20	3,695	20	0	-57	
25	1510.83	19,505	-3,561	1,404	19	4,920	19	0	-45	
26	1517.69	22,267	2,762	5,958	18	3,137	18	0	-59	
27	1516.84	21,914	-353	5,037	17	3,935	17	1,360	-95	
28	1516.57	21,802	-112	5,757	17	4,331	17	1,531	-7	
29	1521.21	23,759	1,957	5,150	16	3,315	16	0	122	
30	1522.48	24,308	549	5,582	16	3,558	16	1,453	-22	
Total				4,022	129,198	906	67,979	906	56,514	
									-683	

Table 27. Castaic Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow		Computed Losses (-) Gains (+)	
				From Elderberry Forebay		Natural	Deliveries	Released To Castaic Lagoon		
				Natural	Project					
Mar 31	1489.06	268,741								
1	1491.10	272,847	4,106	13	4,792	19	448	40	-230	
2	1491.44	273,535	688	13	1,311	18	456	40	-158	
3	1493.22	277,152	3,617	14	4,166	17	456	94	-30	
4	1493.61	277,948	796	16	1,451	17	465	198	-25	
5	1494.88	280,550	2,602	16	3,390	15	535	198	-86	
6	1496.10	283,063	2,513	24	3,283	49	792	198	147	
7	1498.34	287,712	4,649	31	5,375	45	692	198	88	
8	1499.25	289,614	1,902	27	2,983	37	636	198	-311	
9	1501.36	294,051	4,437	25	5,210	32	649	198	17	
10	1500.96	293,207	-844	22	0	27	695	198	0	
11	1500.63	292,511	-696	42	0	40	717	198	137	
12	1501.47	294,283	1,772	126	2,217	112	694	198	209	
13	1502.45	296,359	2,076	83	3,011	80	650	198	-250	
14	1503.96	299,573	3,214	64	3,761	57	598	198	128	
15	1504.98	301,756	2,183	51	2,985	44	572	198	-127	
16	1505.32	302,486	730	43	1,471	34	746	159	87	
17	1504.91	301,606	-880	35	0	32	900	81	34	
18	1504.39	300,492	-1,114	29	0	29	1,063	79	-30	
19	1505.23	302,293	1,801	25	3,195	27	1,203	79	-164	
20	1504.61	300,963	-1,330	22	0	23	1,299	79	3	
21	1504.89	301,563	600	21	1,845	22	1,230	79	21	
22	1504.99	301,778	215	21	1,724	22	1,263	50	-239	
23	1504.42	300,557	-1,221	20	0	23	1,313	50	99	
24	1503.84	299,317	-1,240	20	0	23	1,239	50	6	
25	1503.26	298,080	-1,237	19	0	22	1,176	50	-52	
26	1502.71	296,911	-1,169	18	0	20	1,182	50	25	
27	1502.86	297,229	318	17	1,360	19	948	30	-100	
28	1503.09	297,719	490	17	1,531	19	916	30	-131	
29	1502.76	297,017	-702	16	0	18	769	30	63	
30	1503.03	297,591	574	16	1,453	16	656	30	-225	
Total				28,850	906	56,514	958	24,958	3,476	-1,094

Table 28. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

April 1999

Reach	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitlement	Rec.	Local	Purchase Pool B	CLWA T1 2/	
	No.	No.	Mile								
29A	42	Oso Pumping Plant	1.49		51,825						
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Removed						
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub						
		Warne Power Plant	14.07		53,549						
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	0						
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0						
29J	W4	Castaic Power Plant	25.82	(67,979 AF pumpback)	129,198						
		Elderberry Forebay									
		Forebay Dam	28.12								
30 1/	W5	Castaic Lake	31.47	Calif. State Park Castaic Lake Recreation	24		24				
		Castaic Lake Outlet	31.55	MWD - 78"	0						
				MWD - 132"	24,727						
				MWD-Castaic Lake WA - T1	-1,279						
				Castaic Lake WA - T1	1,279						
				Castaic Lake WA	4						
				United Water Conservation Dist.	0						
				MWD - Ventura County FCD	154						
				LA Co. Parks & Recreation	0						
				Releases to Lagoon	3,476						
				Reach 30 Subtotal:	24,909						
	W6	Castaic Lagoon		Recreation to Lagoon	71						
		Outlet	31.87		3,277						

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

2/ SWP wheeling of water between Castaic Lake Water Agency and Metropolitan Water District of Southern California.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 1999

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow				Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Project	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3350.14	70,308												
1	3349.94	70,120	-188	1,185	0	9	3	0	1,350	0	0	-29	0	
2	3350.34	70,497	377	1,564	0	9	3	0	1,107	0	1	-85	0	
3	3350.63	70,771	274	564	0	10	1	0	451	0	0	152	0	
4	3351.25	71,359	588	708	0	11	0	0	0	0	1	-130	0	
5	3351.41	71,511	152	1,432	0	9	0	0	1,422	0	0	133	0	
6	3350.97	71,093	-418	714	0	25	3	0	1,294	0	1	141	0	
7	3351.37	71,473	380	1,465	0	33	3	0	1,203	0	0	88	0	
8	3351.12	71,235	-238	852	0	29	3	0	1,146	0	0	30	0	
9	3351.00	71,121	-114	922	0	28	2	1	1,073	0	1	13	0	
10	3351.48	71,577	456	1,394	0	24	2	0	1,028	0	0	68	0	
11	3351.73	71,815	238	1,372	0	30	0	0	1,170	0	1	7	0	
12	3351.66	71,749	-66	991	0	84	0	0	1,294	0	0	153	0	
13	3351.92	71,997	248	1,388	0	57	3	0	1,206	0	0	12	45	
14	3351.95	72,025	28	1,212	9	49	3	0	1,252	0	0	13	45	
15	3351.77	71,853	-172	935	9	42	3	0	1,145	0	1	-9	45	
16	3351.67	71,758	-95	1,007	20	36	0	0	1,190	0	0	32	45	
17	3351.54	71,634	-124	1,002	21	32	3	1	1,123	0	0	-52	45	
18	3351.45	71,549	-85	1,150	23	29	3	0	1,259	0	0	-25	45	
19	3351.36	71,463	-86	1,007	4	26	3	0	1,210	0	1	91	41	
20	3350.92	71,045	-418	623	0	24	3	0	990	0	0	-72	0	
21	3351.46	71,558	513	1,264	0	22	3	0	839	0	1	70	0	
22	3351.54	71,634	76	1,185	0	24	3	0	1,129	0	0	-1	0	
23	3351.37	71,473	-161	777	0	19	3	0	961	0	0	7	0	
24	3351.39	71,492	19	795	0	19	3	0	784	0	1	-7	0	
25	3351.50	71,596	104	856	0	17	3	0	814	0	0	48	0	
26	3351.87	71,949	353	1,769	0	16	3	0	1,419	0	0	-10	0	
27	3351.88	71,958	9	1,772	0	15	3	0	1,728	0	1	-46	0	
28	3351.80	71,882	-76	1,361	0	16	3	0	1,560	0	0	110	0	
29	3351.96	72,035	153	1,839	0	15	3	0	1,685	0	1	-12	0	
30	3352.03	72,102	67	1,532	0	16	3	0	1,498	0	0	20	0	
Total				1,794	34,637	86	775	71	2	34,330	0	11	710	311

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 30. Lake Perris
Daily Operation
(in acre-feet except as noted)

Capacity: 131,452 ac-ft

April 1999

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Mar 31	1586.65	123,760				
1	1586.69	123,851	91		10	
2	1569.00	123,851	0		11	
3	1586.67	123,805	-46		11	
4	1586.70	123,874	69		10	
5	1586.74	123,964	90		10	
6	1586.78	124,055	91		11	
7	1586.82	124,146	91		10	
8	1586.83	124,169	23		11	
9	1586.87	124,260	91		11	
10	1586.92	124,374	114		10	
11	1586.91	124,351	-23		10	
12	1586.94	124,419	68		10	
13	1586.99	124,533	114		11	
14	1586.99	124,533	0		11	
15	1587.02	124,601	68		10	
16	1587.06	124,693	92		11	
17	1587.07	124,715	22		10	
18	1587.07	124,715	0		10	
19	1587.07	124,715	0		10	
20	1587.07	124,715	0		12	
21	1587.00	124,556	-159		10	
22	1586.97	124,487	-69		12	
23	1586.96	124,465	-22		11	
24	1586.99	124,533	68		12	
25	1587.01	124,579	46		12	
26	1587.11	124,807	228		11	
27	1587.17	124,944	137		11	
28	1587.13	124,852	-92		12	
29	1587.10	124,784	-68		11	
30	1587.13	124,852	68		12	
Total			1,092	2,244	324	-828

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California State Park at lake Perris.

Table 31a. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

April 1999

Reach No.	Operating Pool		Turnout	Total Diver-sions	Deliveries					
	Beginning and Ending				Entitle-ment	Rec.	Transfer	Purchase Pool B	Transfer Local Out	
	No.	Structure	Mile							
17E	40	Edmonston Pumping Plant	293.45		96,516					
	41		298.65	Kern County Water Agency Tej.-Cas	Stub					
17F		Check No. 41	303.41							
18A	42	Check No. 42	304.99							
19		Alamo Powerplant	305.73	(Does not include 1,210 AF flow down Cottonwood Chute)	41,487					
			308.05	Antelope Valley-East Kern WA	0					
	43	Check No. 43	309.70							
	44		311.84	LADWP Connection	0					
			313.50	AVEK 245th Street West	0					
	44	Check No. 44	314.81							
	45		314.93	AVEK 235th Street West	12					
			315.57	AVEK 225th Street West	0					
	45	Check No. 45	319.74							
	46		323.19	Antelope Valley-East Kern WA Fairmont	2,590					
		Check No. 46	323.84							
				Reach 19 Total:	2,602	2,515	0	87	0	
20A	47	Check No. 47	326.77							
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	10					
			329.65	Antelope Valley-East Kern WA 120th Street West	Re-moved	10				
	48	Check No. 48	330.82							
	49	Check No. 49	335.93							
	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	26					
				Antelope Valley-East Kern WA	1,951	26				
20B	50	Check No. 50	341.51							
	51	Check No. 51	342.07							
	52		342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use					
		Check No. 52	343.74							
	53		346.98	PWD Palmdale	290					
			348.14	Antelope Valley-East Kern WA Acton Treatment Plant	0	290				
21	53	Check No. 53	348.17							
	54	Check No. 54	350.25							
	55	Check No. 55	352.70							
	56	Check No. 56	354.76							
22A			354.97	Littlerock Creek I.D.	37					
	57	Check No. 57	356.93							
22B	58		357.72	Antelope Valley-East Kern WA 96th Street East	77					
			359.82	Antelope Valley-East Kern WA East Side Treatment Plant	323	77				

Table 31b. Governor Edmund G. Brown California Aqueduct
 Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

April 1999

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitlement	Recreation	Transfer	Purchase Pool B	Local	
	No.	Structure	Mile								
22B	58	Pearblossom Pumping Plant	360.61		34,173	279					
	59	Check No. 59	366.09								
	60	Check No. 60	373.94								
	61	Check No. 61	379.00								
	62	Check No. 62	384.26								
	63	Check No. 63	389.50								
	64	Check No. 64	395.10								
	65	Check No. 65	400.32								
	66		401.10	Mojave Water Agency							
				Morongo 24" and 42"	279						
23	Check No. 66		403.41	Mojave Water Agency		70					
				Hesperia	0						
24	67	Mojave Siphon	405.48	Las Flores Ranch	311	311					
			405.65	(Does not include 86 AF of bypass at Mojave Flume)	34,637						
25		Silverwood Lake	407.65	Crestline Lake Arrowhead Water Agency	71						
				Calif. State Park							
		San Bernardino Tunnel	411.46	Silverwood Agency (Rec.)	2						
	26A	Devil Canyon Powerplant			34,330	1					
		412.73	San Gorgonio Pass Water Agency	0							
				34,330							
		412.88	MWD-SC Rialto	12,351							
			Desert Water Agency (MWD Wheeling Exchange)	3,443							
			San Gabriel Valley Water District	383							
	28G		Santa Ana Valley Pipeline		Coachella Valley WD (MWD Wheeling Exchange)	2,088	70				
					San Bernardino Valley Metropolitan Water District	12					
					MWD (SBVMWD Exchange)	0					
28H	28J	Lake Perris	425.46			3,540					
			433.06	MWD-SC Box Springs	3,540						
			440.05	MWD-SC Perris Bypass Pipeline	10,820						
			442.00	MWD-SC 18"	310						
			443.44	MWD-SC 54"	0						
				MWD-SC 78"	0						
				Calif. State Park							
				Lake Perris Recreation	14						
				MWD Total:	56,154	56,154	0	0	0	0	

Table 32. Water Quality At Selected SWP Locations

April 1999

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l	38	137	62	62	74	70	71	69	64
Arsenic	mg/l	<0.001	0.002	0.001	0.001	0.002	0.001	0.002	0.002	0.002
Boron	mg/l	<0.10	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Bromide	mg/l	0.01	0.09	0.13	0.13	0.18	0.15	0.17	0.15	0.11
Calcium	mg/l	7	18	17	17	19	20	21	19	16
Carbon - Total Organic	mg/l	NR	9	3	3	3	NR	NR	3	3
Chloride	mg/l	1	47	39	41	57	51	54	49	34
Chromium	mg/l	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper	mg/l	<0.001	0.004	0.002	0.003	0.002	0.002	0.002	0.002	0.002
Fluoride	mg/l	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/l	30	119	80	80	93	95	98	89	73
Iron	mg/l	0.005	0.012	<0.005	0.006	<0.005	0.007	0.006	0.005	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	3	18	9	9	11	11	11	10	8
Manganese	mg/l	<0.005	0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate + Nitrite	mg/l	< 0.01	0.15	0.73	NR	NR	NR	NR	0.76	0.57
Phosphorus-Ortho	mg/l	< 0.01	0.09	0.06	NR	NR	NR	NR	0.05	0.05
Phosphorus-Total	mg/l	0.02	0.21	0.15	NR	NR	NR	NR	0.08	0.09
Selenium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	mg/l	3	56	36	38	46	45	48	45	32
Specific Conductance	µS/cm	77	501	350	358	425	424	447	416	317
Sulfate	mg/l	2	44	45	44	42	56	60	55	36
Total Dissolved Solids	mg/l	44	284	179	189	216	235	231	230	167
Trihalomethane Formation Potential	µg/l	NR	1020	346	422	365	NR	428	394	359
Turbidity	NTU	3	51	17	8	12	NR	16	16	4
Zinc	mg/l	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

mg/l milligrams per liter

µg/l micrograms per liter

µS/cm microSiemens per centimeter

NR - Not Reported

NTU - nephelometric turbidity units

Table 33. Water Quality At Selected Delta Stations

April 1999

Date	Tides (feet above mean sea level)		Flow In CFS			Electrical Conductivity in millSiemens/ci								Cl in mg/l	
	(Antioch) Daily Mean		Net Delta Outflow Index		Rio Vista	Antioch	Chippis Island	Emmaton		Jersey Point		Clifton Court	Cache Slough	Delta Mendota Canal	
	Mean Daily	Monthly Average	md	md				md	14dm	md	14dm				
	Hi	Half													
1	2.71	0.98	43,042	43,042	30,341	0.18	N.R.	0.17	0.17	0.18	0.18	N.R.	0.79	0.52	46
2	2.83	1.03	37,616	40,329	27,047	0.18	N.R.	0.17	0.17	0.19	0.18	0.00	0.72	0.50	49
3	2.79	1.07	32,139	37,599	25,474	0.18	N.R.	0.18	0.17	0.19	0.18	0.00	0.78	0.52	52
4	2.44	0.67	30,663	35,865	24,256	0.18	N.R.	0.18	0.17	0.19	0.18	0.00	0.81	0.54	52
5	2.43	0.80	28,026	34,297	23,295	0.18	N.R.	0.19	0.17	0.19	0.18	0.00	0.86	0.53	51
6	2.45	0.83	31,498	33,831	24,087	0.18	N.R.	0.19	0.18	0.19	0.18	0.00	0.77	0.53	48
7	2.41	0.91	30,947	33,419	24,022	0.18	N.R.	0.18	0.18	0.19	0.19	N.R.	0.75	0.56	41
8	2.45	0.97	31,009	33,117	24,109	0.18	N.R.	0.18	0.18	0.19	0.19	N.R.	0.77	0.55	35
9	1.72	0.59	31,816	32,973	25,095	0.19	N.R.	0.17	0.18	0.19	0.19	0.00	0.72	0.59	29
10	1.74	0.52	32,073	32,883	25,028	0.19	N.R.	0.17	0.18	0.19	0.19	0.00	0.73	0.47	34
11	2.18	0.87	29,745	32,598	27,438	0.19	0.18	0.18	0.18	0.19	0.19	0.00	0.69	0.45	31
12	2.40	0.80	33,007	32,632	29,568	0.19	0.74	0.17	0.18	0.19	0.19	0.52	0.51	0.43	33
13	2.47	0.74	37,630	33,016	32,538	0.19	0.35	0.17	0.18	0.19	0.19	0.79	0.60	0.42	36
14	2.60	0.80	40,760	33,569	32,807	0.19	0.21	0.17	0.18	0.19	0.19	0.97	0.69	0.40	36
15	2.81	0.84	40,464	34,029	30,621	0.19	0.17	0.17	0.18	0.19	0.19	0.73	0.73	0.39	33
16	3.13	0.97	36,508	34,184	29,594	0.19	0.17	0.16	0.18	0.19	0.19	0.12	0.74	0.38	31
17	3.32	1.09	38,920	34,463	29,490	0.19	0.16	0.17	0.18	0.19	0.19	0.11	0.74	0.38	31
18	3.51	1.12	38,893	34,709	29,454	0.19	0.16	0.17	0.17	0.19	0.19	0.67	0.78	0.35	37
19	3.48	1.11	40,518	35,014	29,687	0.19 e	0.14	0.17 e	0.17	0.19 e	0.19	0.68	0.80 e	0.35	37
20	3.31	1.13	40,069	35,267	29,087	0.18	0.13	0.17	0.17	0.20	0.19	0.63	0.83	0.36	35
21	3.14	1.26	39,021	35,446	28,377	0.18	N.R.	0.17	0.17	0.20	0.19	0.66	0.80	0.34	32
22	2.88	1.06	38,740	35,596	27,938	0.18	N.R.	0.17	0.17	0.21	0.19	0.82	0.77	0.34	38
23	2.24	0.77	38,270	35,712	26,712	0.18	N.R.	0.16	0.17	0.20	0.19	0.59	0.78	0.34	38
24	2.47	1.09	35,992	35,724	25,093	0.18	N.R.	0.17	0.17	0.20	0.19	0.62	0.76	0.33	37
25	2.91	1.11	34,541	35,676	23,986	0.18	N.R.	0.17	0.17	0.20	0.20	0.79	0.74	0.33	37
26	2.76	0.97	33,090	35,577	23,100	0.19	N.R.	0.16	0.17	0.20	0.20	0.60	0.71	0.31	41
27	2.68	0.92	31,915	35,441	22,687	0.19	N.R.	0.16	0.17	0.20	0.20	0.37	0.69	0.31	44
28	2.85	0.85	31,459	35,299	22,435	0.19	N.R.	0.16	0.17	0.20	0.20	N.R.	0.67	0.31	44
29	2.70	0.87	31,066	35,153	21,812	0.20	0.13	0.16	0.17	0.20	0.20	0.19	0.65	0.31	46
30	3.02	1.05	30,696	35,004	21,347	0.19	0.13	0.16	0.17	0.20	0.20	0.55	0.66	0.30	47

Clifton Court Cl(mg/l)=200X EC - 25

e = Estimated

N.R. = No Record.

N.C. = Not computed due to insufficient data

f = Excess Delta conditions with fish concerns.

r = Excess delta conditions with export/inflow ratio concerr dm = Daily Mean

s = Balanced water conditions with storage withdrawals. md = Mean Daily

Table 34. Pesticides, Herbicides, and Other Organic Substances Detected In the SWP

April 1999

Sampling Location	Sample Date 1/	Chemical Detected 2/	Concentration µg/l 3/
North Bay Aqueduct At Barker Slough Pumping Plant	March 17, 1999	None Detected	
California Aqueduct At Banks Pumping Plant	March 17, 1999	None Detected	
Delta Mendota Canal At McCabe Road	March 17, 1999	None Detected	
California Aqueduct Near Kettleman City (Check 21)	March 17, 1999	None Detected	
California Aqueduct At Tehachapi Afterbay (Check 41)	March 17, 1999	None Detected	
Devil Canyon Power Plant At Entrance To Santa Ana Pipeline	March 17, 1999	None Detected	

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ These detection results were double checked with the lab, due to the unlikelihood of nothing being detected, the results are still being looked into.

3/ Micrograms per liter.

Table 35. Oroville and Delta Field Divisions Energy Data

(in kWh)

April 1999

Date	Oroville Thermalito Complex		Barker Slough Pumping Plant Load	Cordelia Pumping Plant Load	Banks Pumping Plant		South Bay Pumping Plant Load	Del Valle Pumping Plant Load
	Generation	Load			Total Load	SWP Load		
1	3,077,568	0	16,807	32,123	922,944	922,944	126,145	718
2	3,834,144	0	17,535	34,160	925,824	925,824	116,220	741
3	3,552,192	0	16,471	35,238	1,058,112	1,058,112	119,700	731
4	6,644,736	288	16,625	33,229	376,320	376,320	113,645	738
5	7,019,424	0	17,318	33,243	492,864	492,864	115,295	773
6	5,394,240	0	20,587	36,309	246,336	246,336	118,645	777
7	4,599,072	0	17,150	32,424	139,776	139,776	120,400	785
8	4,051,008	4,032	17,703	33,453	139,968	139,968	115,935	502
9	4,281,696	4,320	18,676	34,930	139,200	139,200	114,280	285
10	2,626,272	5,472	16,422	34,118	383,808	383,808	119,075	292
11	3,523,968	5,184	18,368	34,846	295,680	295,680	200,885	299
12	3,224,736	5,760	20,181	35,840	139,776	139,776	185,760	290
13	2,650,464	4,320	20,181	34,979	140,736	140,736	202,280	287
14	3,440,160	2,592	17,164	34,062	1,580,928	1,580,928	69,990	386
15	2,717,280	4,608	12,894	29,904	1,412,928	1,412,928	152,810	501
16	591,552	10,656	14,581	30,338	1,284,096	1,284,096	121,600	292
17	685,152	6,336	13,202	29,988	1,846,848	1,846,848	119,340	267
18	3,821,184	4,896	12,012	28,903	1,401,600	1,401,600	115,125	262
19	7,438,176	2,304	17,066	34,153	1,421,760	1,421,760	114,985	261
20	10,311,552	2,880	16,667	30,765	1,416,576	1,416,576	162,405	257
21	14,785,632	0	12,852	28,532	1,409,856	1,409,856	182,705	253
22	17,991,648	0	12,992	30,779	1,396,224	1,396,224	170,370	249
23	17,921,088	0	13,559	32,599	1,300,992	1,300,992	162,010	254
24	17,860,032	0	11,179	27,867	1,600,896	1,600,896	180,365	269
25	17,312,256	0	11,928	28,406	1,224,768	1,224,768	176,410	266
26	17,602,272	0	12,243	23,961	1,252,224	1,252,224	185,015	275
27	17,456,544	0	11,655	25,704	84,480	84,480	189,210	278
28	17,842,752	0	11,172	23,191	21,312	21,312	195,030	298
29	17,764,992	0	10,682	24,402	237,504	237,504	264,910	4,233
30	16,503,264	0	10,759	25,004	84,672	84,672	296,735	6,577
	11,508,480	0	14,490	28,217	138,048	138,048	295,310	7,780
Total	268,033,536	63,648	471,121	961,667	24,517,056	24,517,056	4,922,590	30,176

Table 36. San Luis Field Division Energy Data

(in kWh)

April 1999

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	1,508,832	1,241,832	0	0	21,600	21,600
2	1,492,560	1,225,560	0	0	21,888	21,888
3	1,355,328	1,088,328	0	0	19,872	19,872
4	1,213,776	964,776	0	0	443,520	35,520
5	1,100,592	869,592	67,104	67,104	21,600	21,600
6	1,455,408	1,224,408	0	0	23,328	23,328
7	1,410,912	1,179,912	0	0	23,040	23,040
8	1,444,896	1,213,896	0	0	369,792	369,792
9	1,413,072	1,182,072	0	0	23,904	23,904
10	1,392,192	1,161,192	0	0	21,888	21,888
11	1,110,240	879,240	0	0	1,223,136	-864
12	1,110,096	879,096	0	0	121,536	121,536
13	990,720	759,720	0	0	375,552	18,552
14	1,146,384	915,384	156,096	156,096	372,672	372,672
15	1,109,520	878,520	47,232	47,232	372,384	168,384
16	1,354,320	1,123,320	0	0	21,888	21,888
17	1,333,584	1,102,584	0	0	20,736	20,736
18	921,888	690,888	0	0	20,736	20,736
19	1,242,144	1,011,144	1,279,008	1,279,008	12,096	12,096
20	1,097,856	866,856	1,439,712	1,439,712	11,520	11,520
21	1,179,504	948,504	1,561,824	1,000,824	9,216	9,216
22	1,437,840	1,092,840	3,102,624	1,572,624	7,200	7,200
23	1,329,120	984,120	2,608,704	1,078,704	7,488	7,488
24	1,399,824	904,824	3,452,256	1,247,256	7,200	7,200
25	1,376,496	881,496	728,064	-6,936	10,080	10,080
26	1,504,800	1,009,800	2,088,288	618,288	7,488	7,488
27	1,451,088	956,088	2,731,392	1,261,392	7,776	7,776
28	1,642,032	1,147,032	3,276,864	1,071,864	7,200	7,200
29	1,576,656	1,024,656	3,870,432	2,008,432	6,912	6,912
30	1,582,272	1,030,272	4,102,848	1,606,848	8,640	8,640
Total	39,683,952	30,437,952	30,512,448	14,448,448	3,621,888	1,428,888

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping; adjustments to SWP water shares are made to balance the mismatch.

Table 37. San Joaquin Field Division Pumping Plant Energy Load Data

(in kWh)

April 1999

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	27,102	73,592	27,090	27,612	26,820	1,118,304	1,179,072	2,736,000	9,694,080
2	23,450	64,232	27,216	28,998	29,502	1,123,056	1,133,064	2,637,216	9,330,480
3	23,932	65,520	45,612	46,548	45,468	957,456	1,008,576	2,320,704	8,315,280
4	13,232	37,040	30,996	33,048	31,770	1,022,976	1,084,968	2,570,400	9,020,160
5	16,508	43,424	33,750	34,506	34,200	1,076,616	1,143,576	2,626,560	9,453,600
6	15,556	42,408	40,698	42,192	42,282	1,085,472	1,153,800	2,657,376	9,343,440
7	18,998	50,456	41,796	42,678	41,166	1,072,440	1,143,360	2,615,616	9,575,280
8	19,402	49,376	29,646	31,896	32,130	1,077,696	1,137,456	2,595,456	9,267,120
9	24,440	63,080	21,978	22,014	20,880	1,122,696	1,187,640	2,700,576	9,482,400
10	23,606	61,040	31,878	34,434	35,082	1,058,400	1,106,352	2,540,160	8,994,960
11	19,560	51,352	33,966	34,416	33,138	1,029,888	1,101,960	2,582,784	9,352,080
12	17,658	49,448	33,912	34,488	33,174	1,071,504	1,158,480	2,666,592	9,514,080
13	20,464	56,640	46,710	48,960	50,148	1,019,592	1,152,288	2,657,664	9,560,160
14	18,910	51,656	14,814	15,354	14,094	1,071,432	1,147,536	2,686,752	9,555,840
15	23,672	62,928	33,750	35,082	34,542	973,368	1,066,752	2,453,760	8,900,640
16	17,962	49,096	19,116	20,124	19,332	1,084,680	1,127,952	2,586,528	9,258,480
17	22,060	60,312	46,800	48,492	47,322	487,296	524,160	1,183,968	4,191,120
18	21,714	56,536	32,544	34,974	34,830	579,312	523,080	1,202,976	4,099,680
19	22,266	60,520	47,934	49,500	48,168	475,920	532,800	1,186,560	4,520,880
20	21,448	57,352	47,034	48,510	46,800	592,272	593,208	1,345,536	4,472,640
21	22,684	60,512	35,532	36,432	36,396	641,232	636,048	1,394,208	4,964,400
22	23,910	66,672	56,700	58,788	56,376	674,640	652,824	1,437,408	5,015,520
23	29,242	83,464	32,742	34,992	34,452	581,472	574,560	1,265,760	4,350,240
24	37,520	106,376	34,110	34,902	33,354	531,864	507,744	1,147,680	4,182,480
25	37,706	108,296	49,626	52,488	50,670	609,624	582,192	1,317,312	4,586,400
26	41,414	114,480	34,290	34,920	34,974	706,680	716,616	1,620,288	5,943,600
27	43,884	124,360	48,258	49,662	47,844	729,936	749,952	1,696,032	5,971,680
28	39,168	110,056	53,334	56,592	55,638	795,312	779,328	1,728,864	6,030,720
29	29,010	81,008	32,634	34,578	34,902	757,800	752,760	1,708,128	5,983,200
30	27,044	73,496	44,280	45,288	43,938	756,000	714,744	1,636,128	5,795,280
Total	743,522	2,034,728	1,108,746	1,152,468	1,129,392	25,884,936	26,872,848	61,504,992	218,725,920

Table 38. Southern Field Division Energy Data

(in kWh)

April 1999

Date	West Branch			East Branch			
	Oso Pumping Plant Load	Warne Powerplant Generation	Castaic Powerplant SWP Generation	Alamo Powerplant Generation	Pearblossom Pumping Plant Load	Devil Canyon Powerplant Generation	Mojave Siphon Powerplant Generation
1	744,800	1,602,576	1,920,000	184,884	687,780	1,648,704	98,511
2	763,952	1,765,656	1,920,000	153,216	771,816	1,329,600	129,696
3	692,104	1,635,840	1,920,000	134,064	445,392	561,408	42,630
4	890,176	907,344	1,840,000	72,492	383,556	0	57,624
5	735,784	1,802,880	2,400,000	169,288	822,696	1,681,344	111,762
6	690,480	1,619,928	2,400,000	192,780	860,484	1,553,856	58,443
7	715,288	1,642,896	2,400,000	180,488	890,424	1,480,608	117,432
8	800,072	1,684,440	2,400,000	132,468	534,792	1,362,624	64,050
9	781,200	1,753,200	2,400,000	153,104	810,828	1,338,144	77,154
10	712,488	1,719,288	2,400,000	161,784	862,800	1,214,304	109,830
11	767,200	1,582,488	2,400,000	147,840	901,536	1,440,768	109,326
12	771,848	1,808,640	1,920,000	158,984	696,000	1,576,032	81,480
13	736,680	1,716,192	1,920,000	177,352	841,140	1,467,648	108,045
14	727,160	1,756,584	1,920,000	181,524	843,288	1,499,904	93,891
15	732,032	1,684,080	1,920,000	142,632	702,264	1,406,208	77,364
16	750,624	1,767,816	1,920,000	150,136	782,760	1,473,504	83,538
17	281,176	424,152	1,920,000	103,208	684,048	1,387,680	83,181
18	181,440	11,952	1,920,000	127,736	768,936	1,481,856	94,374
19	238,504	476,640	600,000	134,036	690,708	1,499,904	82,425
20	172,704	441,864	600,000	160,552	492,516	1,230,432	46,431
21	172,872	499,104	600,000	186,816	923,652	1,041,888	105,462
22	174,720	503,208	600,000	188,944	741,948	1,384,512	93,198
23	175,504	502,128	600,000	150,556	628,164	1,208,832	64,554
24	197,792	500,400	600,000	134,484	602,076	978,816	65,919
25	202,328	0	600,000	149,436	713,484	1,023,168	70,686
26	172,872	561,744	600,000	231,448	1,133,340	1,730,880	135,723
27	173,040	608,904	600,000	35,840	1,134,240	2,046,144	134,085
28	186,200	454,680	600,000	163,240	1,139,016	1,881,408	109,074
29	201,712	435,384	600,000	217,924	880,272	2,052,480	144,690
30	232,512	436,752	600,000	203,448	1,126,884	1,852,224	118,755
Total	14,775,264	32,306,760	45,040,000	4,680,704	23,496,840	41,834,880	2,769,333